

The iron

Julie Franklin and the late Ian Goodall

Introduction

The iron assemblage numbered 1647 objects. Some 400 of these were too fragmentary to be identifiable and are omitted from the report. Decorative brooches, spurs and weapons are dealt with elsewhere in this Fascicule. This report covers the other iron objects, under the following sub headings:

Buckles and strap slides

Horse gear

Knives, scissors and shears

Textile-working tools

Leatherworking tools

Woodworking tools

Ironworking tools and forgings

Agricultural tools

Fishing

Locks and keys

Candlesticks

Miscellaneous tools and objects

Building ironwork and furnishings

Three padlocks and one padlock key of copper alloy have been included in this section for convenience (Cat Nos 233, 239, 253, 293). Some objects such as the buckles and needles also have copper alloy equivalents but these are discussed separately with the rest of the non-ferrous metal.

The ferrous metal report was begun by the late Ian Goodall who left a detailed archive of notes and sketches. The present report has been compiled and completed largely from these notes, with very little need to refer to the finds themselves. The identifications and descriptions in the catalogue entries are essentially Ian Goodall's words. The text, typological classifications, comparanda, spatial and chronological analysis and interpretation were added by Julie Franklin.

The study of medieval finds has progressed since Goodall began his work on the High Street assemblage, in the field of ironwork driven largely by the man himself. The large urban assemblages from Winchester (Goodall 1990), York (Ottaway and Rogers 2002) and London (for example Cowgill et al 1987; Clark 1995; Egan 1998), which now form the benchmarks for any medieval finds report have been published, as have several reports from other Perth excavations (for example Ford 1987, Cox 1997). The typologies and dating evidence worked out in the large English assemblages have been applied to this High Street assemblage, with perhaps surprising results. It might be supposed that there would be a difference in iron assemblages from sites as far apart as Perth and

Winchester, that technological innovations occurred at different times and that certain types of object were more popular in one place than another. For the most part this does not appear to be true. The dating of developments in areas such as horseshoes and padlocks appears to be remarkably similar. Perhaps an iron assemblage is the wrong place to look for distinctions: iron objects are largely utilitarian and functional and not so given to fashions or cultural distinctiveness as, for example, copper alloy. Many forms of tools do not change for centuries, the claw hammer (Cat No 193), for example is identical in form to its modern equivalent.

The assemblage largely derives from the South Sector of the excavation (Areas 1–4, 7–10) dating from the early 12th century to the mid-14th century, with a few finds from later contexts and a large number of unphased finds; the finds from the North Sector (Trench A/Area 5, Trench B and Area 6) are phased independently of the South Sector; the North Sector includes the Lade, backfilled in the 14th century and later. The South Sector chronology is divided into five main periods (Periods I to V), of 50 years each. Some periods were better represented than others in terms of iron finds. Periods I and III are particularly poorly represented, while Periods IV and V contain particularly large assemblages.

The dating comes from pottery and dendro-chronology, with some other dating evidence coming from finds such as spurs and a coin. There is nothing in the iron assemblage which gives any reason to doubt this dating, and in several instances the assemblage confirms the dating. However sometimes the evidence for the crucial period can be annoyingly poorly represented, such as the early 13th century for horseshoes, and the later 14th century for knives.

The date range of this assemblage is both a strength and a weakness. It begins earlier than the average Scottish urban assemblage and is thus a rare glimpse of the material culture of the 12th century. However the cut-off date comes just before the sweeping changes of the second half of the 14th century and thus it is not possible to track these innovations and changes in this assemblage. However, the unusually large size of the assemblage means that it gives statistically useful information on the tools and fittings of early medieval Perth and probably wider urban medieval Scotland. The fact there are no scale tang knives in the assemblage, for example means that it is fairly certain that scale tang knives were not in use in Perth in the first half of the 14th century. The waterlogging in the deposits has also led to some unusual preservation, including a number of wooden knife handles and a large collection of small iron needles.

Catalogue entries included in the report are numbered consecutively and marked 'Illus' or 'Not illustrated'. They are grouped according to type and then listed in chronological order. They include the following information:

Metalwork Catalogue number Number in brackets relates to the late Nicholas Bogdan's draft metalwork catalogue for his projected 'Fascicule 4 – The Metalwork'.

Object type (knife, padlock etc)

Material (Fe, Fe + wood, etc)

Description with dimensions (mm)

Accession number Axxxx for 1975–76 excavation season; Axx–xxxx for 1977 season.

Lab number Lxxxx

X-Ray number X for older X-rays, NX for new X-rays.

Archive illustration number Refers to original line illustrations in site archive – D from photograph, DX from X-ray.

Context number – Area number Cxxxx–x

Feature number Buildings, midden, paths, pits, etc.

Phase (I, II, III, IV, V, VI etc)

Rig (V–VIII)

Illus number/Not illustrated

All finds are from the South Sector unless stated otherwise, that is, from the North Sector.

Summary

This iron assemblage is part of a larger whole and a clearer picture would be seen if looked at in conjunction with the other finds and other types of evidence. The following, however, is a summary of some of the points of interest noted throughout the analysis of these finds.

Looking at the finds functionally, there was a fairly even spread across the different rigs. Taking each period in turn, it was not possible for the most part to clearly define specific workshops on specific properties. The exceptions were: agriculture, for which there was a concentration of tools in the early periods of Rig V; leatherworking which again seemed concentrated in, though was by no means exclusive to, Rig V; and fish hooks, which were few, but all originated from Rig VI. Other finds which might be expected to be more localised, such as evidence for blacksmithing or horse gear, were evenly spread across the area. The presence of agricultural tools on site dwindled in the later periods. As the town grew, the evidence points more towards industrial activities such as blacksmithing, leatherworking and wool processing.

Comparison with finds typologies, based on large assemblages from English urban medieval sites, for the most part shows remarkably little distinction. Preferences, associations and dating of technological innovations in the south of England are mirrored in Scotland. The most distinct variation to existing dating comes from the curry combs. Archaeological findings of curry combs are rare as they are prone to fragment

and hard to recognise from small pieces. They do not appear to come into common usage until the late medieval or early post-medieval period. The finding of three pieces of comb, including a terminal, at such an early date in Perth is therefore surprising and the finding of combs with semi-cylindrical blades at this early date is more surprising still. Assuming the context is secure (C2476–3, M1.4d, Phase IVb, IVc), the older of these two combs predates the earliest such find in London by over a century. Another unusual find of horse gear was an association of horseshoe type and horseshoe nail, specifically a Clark Type 2 horseshoe with a trapezoidal headed nail. It is possibly not significant in terms of dating or horseshoe technology, but is a reminder that such associations are not always clear cut and can be very much based on what an individual farrier might have to hand on a particular day. Also of interest are two instances where horseshoe nails have been used for household purposes (see Horseshoe nails, and Chains, rings, swivels, handles and hooks).

There does seem to be some conservatism in Perth in the field of security equipment. Mounted locks, rotary keys and stapled hasps are rare in Perth, compared to contemporary Winchester. Instead the high proportion of angled figure-of-eight hasps shows a preference for padlocking chests and caskets rather than fitting them with mounted locks.

In all, the assemblage provides a useful body of data and dating evidence which can in turn be applied and compared to evidence from other medieval burghs in Scotland and elsewhere.

Buckles and strap slides

Buckles (1–21)

Only the iron buckles from the site are described and discussed below. There were also a number of copper alloy buckles (see this Fascicule, A Goodall). Several are specialist buckles related to horse gear and any of the others might have been used with horse harness, but it was decided to discuss all the buckles together.

The iron buckles from the site are mostly large and utilitarian. Some are undoubtedly horse harness buckles, some are more general purpose. Iron buckles, including quite large ones, could also be used for men's and women's girdles, sword belts, armour, saddlebags and other travelling gear (Egan and Pritchard 1991, 53). The most common type of medieval iron buckle found is generally D-shaped, with rectangular and trapezoidal forms also being common, and becoming increasingly so in later medieval and later contexts (Goodall 1990, 526; Goodall 1993a). Both are sturdy general purpose buckles and both are well represented at Perth (Cat Nos 1–6). A later development is the double looped buckle, where the pin and strap are attached to the central bar and the back end of the frame can then act as a strap loop to hold down the free end of the strap or

belt. Though early examples are known, they do not come into common usage until the 14th century and continue well into the post-medieval period (Egan and Pritchard 1991, 53; Ottaway and Rogers 2002, 2895). Only one fragment of such a buckle was found at Perth (Cat No 7), from an early 14th-century context.

A more specialist type of buckle is made with a roller bar at the front end of the frame (Cat Nos 8–15). These are surprisingly common at Perth, represented by eight complete or partial buckles. Possibly the distinctive forms of the revolving bar means they can be identified from smaller fragments than simpler buckles. The most common type at Perth (Cat Nos 8–14) has a solid roller, made by looping the ends of the side of the frame around either end of a round-sectioned bar. This usually has knobbed ends to hold it in place, though Cat No 9 appears to be a roller with simple tapering ends. The roller can also be made by rolling a sheet of metal into a tube around the front end of the bar. Cat No 15 might be such a roller. Both types required a high degree of skill to make, particularly in iron. The general consensus is that they were used for horse harness. The rolling bar allowed for a tighter fastening and reduced wear on the strap (Egan and Pritchard 1991, 53–4; Goodall 1990, 526). Also used for horse harness are T-shaped buckles (Cat No 16), to attach a wide strap to a narrower one, such as the girth strap, under the horse's belly, to the saddle (Egan 1995, 59–61; Goodall 1990, 532; Macdonald and Laing 1975).

Also horse-related are two small buckles with integral plates (Cat Nos 17–18). These are spur buckles, as an example from London, still attached to a spur and strap demonstrates (Egan and Pritchard 1991, 55, 107; Egan 1995, 132), and they complement the five spurs found on the site (see this Fascicule, Ellis). The pin was attached through a perforation in the frame and the leather strap was riveted to the underside of the plate. Cat No 18 still has part of the leather in place. Both Perth examples are from 13th-century contexts, though the type is found from the 12th to the 14th centuries (Egan 1995, 150; Goodall 1990, 532).

Strap slides (22–5)

The strap slides may also be related to horse harness. The internal edge of Cat No 25 appears to be scalloped, either for decorative effect or to provide greater purchase. All date from the 13th to early 14th centuries. Similar shaping was found in examples from Rattray, Aberdeenshire (Goodall 1993b, 185–6).

D-shaped buckles

1 (159) Buckle Fe

D-shaped frame, pin lost. Length 21mm; width 25mm. A6425; L1426; X121; C3577–2; B5, North Room–Floor/ Occupation (2); Phase IIa–IIff; Rig V
Not illustrated

2 (484) Buckle Fe

D-shaped frame with pin. Length 54mm; width 62mm. A04–0636; L2505; X231m; C7327–7; B18 (Phase 1b), North Room and South Room–Occupation (6); Phase IVa, IVaa; Rig VII
Illus 125

3 (487) Buckle Fe

D-shaped frame with pin. Length 49mm; width 59mm. A04–0477; L0661; C9327–9; B18 (Phase 1b), North Room and South Room–Occupation (6); Phase IVa, IVaa; Rig VII
Illus 125

4 (1924) Buckle Fe

D-shaped frame with notch for pin. Length 59mm; width 81mm. A1806; L0184; C0204–5; Unstratified (North Sector)
Illus 125

Rectangular buckles

5 (84) Buckle Fe

Rectangular frame with pin. Length 58mm; width 65mm. A1570; L0108; X131; DX182; C3039–1; M14a, Pit 3040; Phase Id–IIc; Rig V
Not illustrated

6 (1332) Buckle Fe

Fragment of rectangular buckle frame. Length 32+mm; width 75+mm. A04–0141; L4133; X194m; D062; C9012–7; M8a; Phase Va, Vaa; Rig VII
Not illustrated

Double-looped buckle

7 (1193) Buckle Fe

Fragment of double looped frame. Length 30+mm; width 20+mm. A6453; L1419; NX10; D069, D070; C2404–3; M1.5a; Phase Va, Vaa(VI); Rigs V and VI
Not illustrated

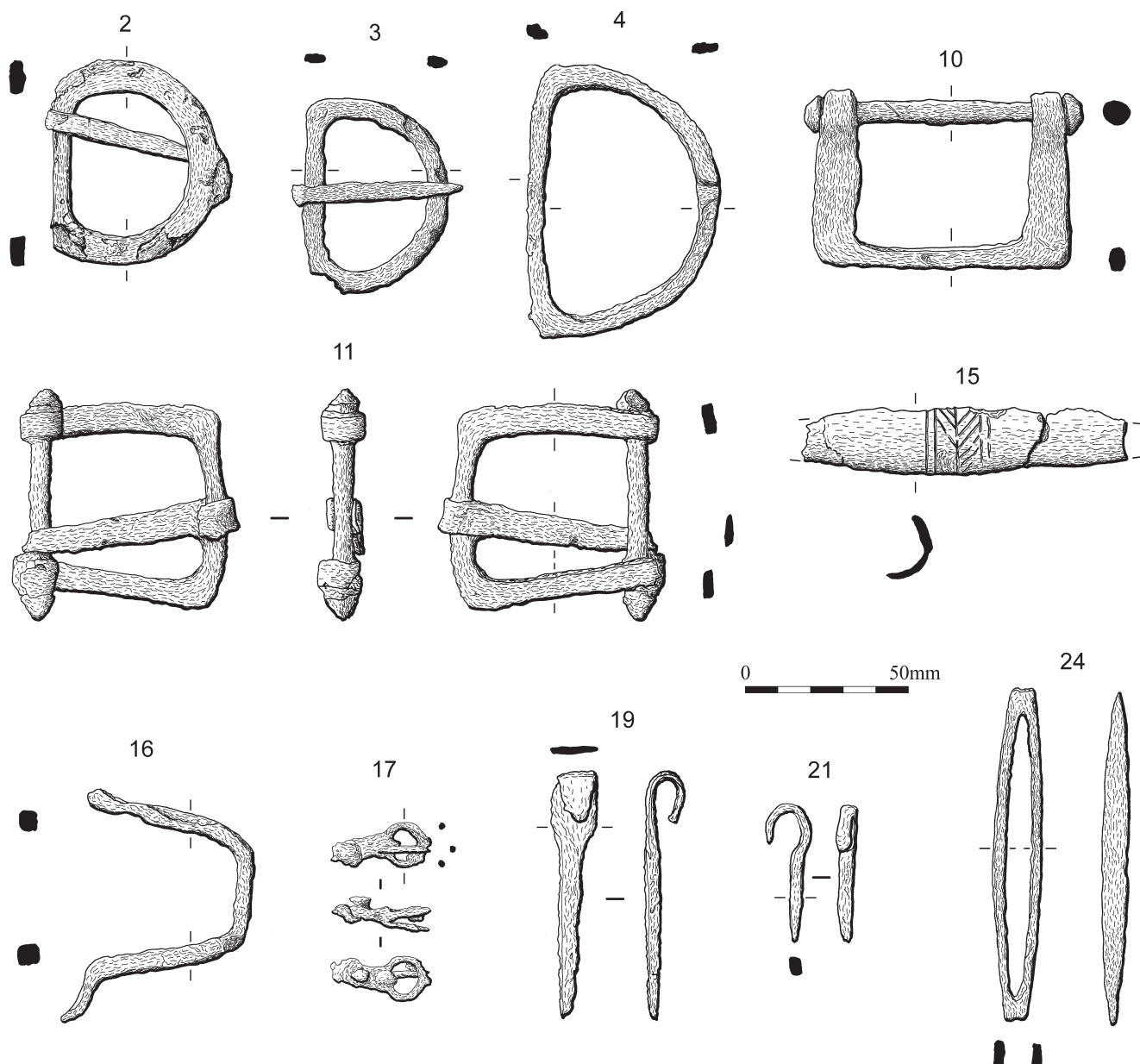
Rectangular and trapezoidal buckles with rollers

8 (87) Buckle Fe

Rectangular frame with pin. Revolving bar with knobbed ends. Length 68mm, width 55mm. A2029; L0297; X136m; DX117; C3039–1; M14a, Pit 3040; Phase Id–IIc; Rig V
Not illustrated

9 (160) Buckle bar Fe

Revolving bar with tapering ends, from buckle. Width 118mm; diameter 13mm. A9930; L0969; X140m; DX121; C3577–2; B5, North Room–Floor/Occupation (2); Phase IIa–IIff; Rig V
Not illustrated



Illus 125 Fe. D-shaped buckles Cat Nos 2–4. Rectangular buckles with rollers Cat Nos 10, 11. Buckle roller? Cat No 15. T-shaped buckle Cat No 16. Small buckle Cat No 17. Strap slide Cat No 24. Buckle pins Cat Nos 19, 21

10 (486) Buckle Fe

Rectangular frame with sides looped around revolving bar with knobbed ends. Pin lost. Length 52mm; width 84mm.

A04–0476; L0660; C9327–9; B18 (Phase 1b), North Room and South Room–Occupation (6); Phase IVa, IVa; Rig VII

Illus 125

11 (528) Buckle Fe

Trapezoidal frame with sides looped around revolving bar with knobbed ends. Pin in place. Length 67mm; width 65mm.

A04–0649; L2118; X231m; DX178; C7342–7; MC126, Pit 7402; Phase IVa, IVb; Rig VII

Illus 125

12 (574) Buckle bar Fe

Revolving bar with knobbed ends. Length 52mm.

A04–0704a; L2158; C7294–7; M1.4f; Phase IVc; Rig VI

Not illustrated

13 (757) Buckle Fe

Fragment of rectangular buckle frame with lost revolving bar. Broken and distorted. Length 72+mm; width 58+mm.

A9505b?; L0984; X085; D113, D114, D115, DX074; C2530–3; MC155, Pit 2691; Phase IVb, IVc; Rig V

Not illustrated

14 (1756) Buckle Fe

Fragment of rectangular frame with revolving bar. One side and bar survives. Length 54+mm; width 68mm.

A04–0066; L3974; X185m; D080, DX133; C7000–7–10; Unstratified; Rigs VI–VIII

Not illustrated

15 (1965) Buckle roller? Fe

Possible decorative sheet roller from buckle. Strip with semicircular section and traces of incised chevrons in centre.

A4204b; L0135; NX10; C1028–6; Garden; Phase G (North Sector)
Illus 125

T-shaped buckles

16 (1060) Buckle Fe

Broken T-shaped buckle frame. Iridescence on surface. Length 56+mm; width 72+mm.

A3566; L0205; X042m, X086m; DX033; C2421–3; B34–Floor; Phase Va; Rig VI

Illus 125

Small buckles with integral plates

17 (322) Buckle Fe and Leather

Oval frame with lip, pin and integral riveted plate and remains of leather strap (see Fascicule 2, The Leather, Cat No 1086).

Length 29mm; frame width 14mm.

A03–0278a; L1061, NX10; C9439–9; B19 (Phase 2b), North Room–Floor (2b); Phase IIIc; Rig VII

Illus 125

18 (599) Buckle Fe and Leather

Round frame with hole for pin and integral shaped plate. Pin lost, plate riveted to remains of leather strap (see Fascicule 2, The Leather, Cat No 2554). Non-ferrous plating on buckle. Buckle length 24mm; width 15mm; overall length with strap 67mm.

A04–0430; X237, X238m; C9245–9; P8.2b; Phase IVb; Rig VII
Not illustrated

Buckle pins

19 (335) Buckle pin Fe

Pin with wide expanded loop and transverse ridge. Tip broken. Length 72+mm; maximum width 14mm.

A? (wrongly recorded as A9119a); C?; Unstratified (South/North Sectors)

Illus 125

20 (336) Buckle pin Fe

Simple pin, complete. Length 57mm.

A9119; L2283; C2606–3; M6a; Phase IIg–IIId; Rig VI
Not illustrated

21 (1353) Buckle pin Fe

Complete pin. Length 41mm.

A04–0217; L3920; C7143–7; B53 (Phase 1), Central Area–Pit 7142; Phase Vb; Rig VII

Illus 125

Strap slides

22 (903) Strap Slide Fe

Broken end of strap slide. Length 53mm; width 21mm.

A7427a; L1447; X043m; D083, DX034; C2462A–3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Not illustrated

23 (923) Strap slide Fe

Slide with concave ends, one side and one end broken. Length 99mm; width 10+mm; thickness 6mm.

A04–0513; L1239; C7233–7; P8.3; Phase IVc, IVcc; Rig VII
Not illustrated

24 (1233) Strap slide Fe

Slide with concave ends, complete. Length 99mm; width 14mm; thickness 6mm.

A04–0311; L4240; X212m; DX160; C7082–7; M1.5b; Phase Vaa; Rigs VI and VII

Illus 125

25 (2008) Strap slide Fe

Complete slide with concave ends. Length 93mm; width 20mm.

A7045; X026m; D184; C0417–5; CG005, MF0490; Phase 4(5) (North Sector)

Not illustrated

Horse gear

This section covers horseshoes, horseshoe nails, bridle bits and curry combs. Harness buckles and spur buckles have been discussed elsewhere (see Buckles and strap slides, above).

Horseshoes (26–52)

The 27 horseshoes have been classified according to Clark's (1995, 85–91) typology based on 360 horseshoes from medieval London. The most common type of horseshoe from the Perth assemblage (Cat Nos 26–43) had the distinctive wavy outline of early medieval shoes (Clark Type 2) which date between the 11th and 13th centuries (ibid, 95–6). Similar dating from other sites confirms the London chronology (Goodall 1990, 1055–6; Goodall 1993a, 225–7). Clark makes a further chronological distinction based on the shape of the nail holes, with rectangular holes appearing in the second half of the 12th century and outnumbering round holes by the 13th century. All the Perth shoes appear to have rectangular holes, though some are a little indeterminate.

The Perth Type 2 group spans the early 12th to the later 13th century and is the only type present until the second half of the 13th century. When compared to the London sequence, this seems to represent a technological lag of a few decades, but this may be a false impression given the scant evidence at Perth (two fragments, Cat Nos 30, 48) for early 13th-century shoes. Some examples have been found in other excavations in Perth from apparently 14th-century contexts (Cox 1996a, 720; Cox 1997, 749), where it is suggested they are residual. The evidence from this assemblage would seem to confirm that.

The web (arm width) of the Perth Type 2 shoes normally ranges from 14mm to 25mm. Webs broader than 20mm are all from later examples, from the second half of the 13th century, though narrower examples continue alongside. Two other late examples (Cat Nos 32, 41) are unusual in that they are of narrow web but with the wavy outer edge barely perceptible. Typically the Perth shoes have three nail holes on either side, which seems to have been standard practice at the time. Where the tip is present, all the shoes show

evidence of some sort of calkin, generally formed by folding over the tip (see Clark 1995, 81 for calkin typology). This provided the horse's hoof with more grip on cobbled surfaces. Cat No 35 might be a broken folded or a worn right-angled type. Cat No 42 is unusual in that it has a narrow 'feathered heel', possibly for a horse with an unusually shaped foot. As a result of this there is no room for a third nail hole along this arm and so an extra hole has been made in the toe. Only Cat No 39 has no calkin at all. This is an unusually small shoe, probably for a pony or donkey and traction may therefore have been less important.

Later horseshoes proved harder to classify as most were represented only by corroded fragments. However, the few larger pieces (Cat Nos 44–47) have broader webs (25–28mm) and fall into Clark's Type 3 or 4. The distinction between the two types is in the nail holes and these are unclear on the Perth examples. Cat Nos 45 and 47 appear to have rectangular countersunk nail holes (Type 3) while those on Cat Nos 44 and 46 appear to be square (and are thus possibly Type 4). In London both types are found from the early 13th century onwards, with Type 3 predominant in the late 13th and early 14th centuries and Type 4 predominant in the later 14th and 15th centuries. At least three of the four shoes of this type had folded calkins. All date to between the late 13th and early 14th centuries.

Horseshoe nails

The horseshoe nails were classified as part of the nail typology. Nail Types G, H and J were horseshoe nails. Four of these nails were found in situ, though interestingly three of them not within horseshoes.

Two Type G nails were found in sheet Cat No 460, and one Type H nail in the end of chain fitting Cat No 356. In both cases, they are the most common type of nail found during that period. It suggests that objects classified as horseshoe nails were used for general household purposes on a regular basis.

Type G nails are the earliest present and most common. They are the only types found in 12th-century deposits. They were clearly used with Clark Type 2 horseshoes, the large but thin head fitting inside the rectangular countersunk nail holes. The same association is evident in other assemblages (Clark 1995, 86, 'fiddle key nails'; Goodall 1973, 173, Type A; Ford and Walsh 1987, Type J1). They have also been found used with Clark Type 3 horseshoes (Clark 1995, 87). They are generally common in 12th- and 13th-century contexts, but 14th-century examples are known.

Type H nails are found from the early 13th century and by the early 14th century are outnumbering the earlier type. Again, these are well known (Clark 1995, 87, 'nail with expanded head and ears'; Goodall 1973, 174, Type B; Ford and Walsh 1987, Type J2). They are found elsewhere from as early as the late 12th century and continue into the 14th century and later. These were used with Clark Type 3 horseshoes, as several examples with nails in place show (Clark 1995, 87). However one of the Perth examples was found in situ within a Clark Type 2 horseshoe (Cat No 42) and a comparison of the horseshoe and nail statistics for Periods III and IV implies this might not have been unusual.

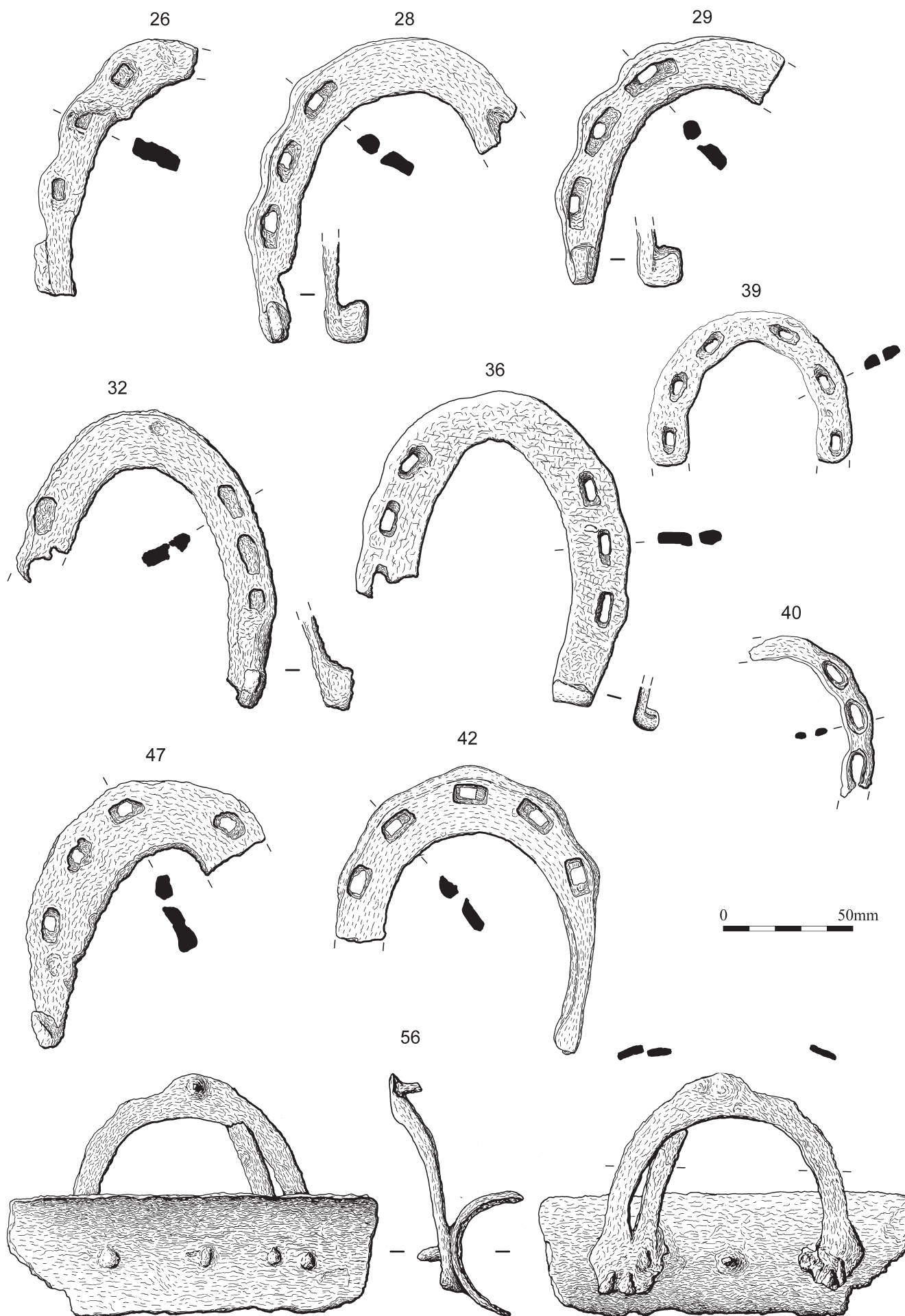
Type J nails are not common and are found from the later 13th century. They are associated with Clark Type 4 horseshoes. They continue in use into the 15th

Table 6 *Chronological distribution of horseshoes.*

period	I	II	III	IV	V	North	total
date	c1100–1150	c1150–1200	c1200–1250	c1250–1300	c1300–1350	late/post-medieval	
Type 2	1	3	1	12		1	18
Type 3 or 4				2	2		4
unidentified			1	1	3		5
total	1	3	2	15	5	1	27

Table 7 *Chronological distribution of horseshoe nails.*

period	I	II	III	IV	V	North Sector	u/s	total
date	c1100–1150	c1150–1200	c1200–1250	c1250–1300	c1300–1350	late/post-medieval		
Type G	2	14	3	29	5	2	5	60
Type H	-	-	1	16	12	7	1	37
Type J	-	-	-	3	-	-	3	6
total	2	14	4	48	17	9	9	103



Illus 126 Fe. Horseshoes Cat Nos 26, 28, 29, 32, 36, 39, 40, 42 and 47. Curry Comb Cat No 56.

century but the lack of later deposits in this assemblage accounts for their rarity (Clark 1995, 89, 'tapering nail with rectangular head'; Goodall 1973, 174, Type C). The tall but narrow head has no need for a countersunk nail hole and seems to have been left standing proud of the shoe, presumably for extra grip. One such horseshoe with nails in place was found at another Perth site, at Canal Street, in a late 14th- or early 15th-century context (Cox 1996a, illus 17:44).

Horseshoe nail typology

G Fiddle key head. Head with semicircular or trapezoidal shape, profile no thicker than shaft. Thirty-one complete examples, lengths 28–46mm; average 39.2mm.

H Trapezoidal shaped head with pronounced ears. Tapering in front view, expanding towards top in profile. Sixteen complete examples, lengths 32–49mm; average 40.0mm.

J Square shaped head. Vertical sides in front view, expanding slightly in side view. Two complete examples, lengths 56–66mm; average 61.0mm.

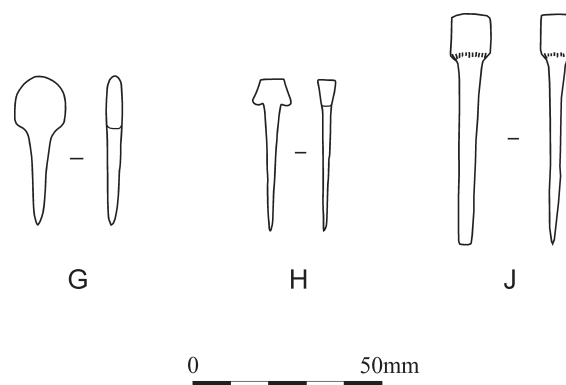
Bridle bits (53–4)

Two fragments were identified as parts of bridle bits, both from late contexts. The most complete includes part of the mouthpiece and part of the cheekpiece from a snaffle bit (Cat No 54), unfortunately from a modern context. The snaffle bit is a simple form of bit, where the reins are attached to the mouthpiece by a ring, though the cheekpiece ring can be extended, as here, by the addition of bars. The shape is classified by Ward Perkins as Type C (1940, 80, Fig 19a) and is described as a common type of medieval cheek piece.

Curry combs (55–7)

These were used to groom horses, removing mud and old fur from their coats. The curry comb fragments include a near complete example (Cat No 56).

This is an early example of a comb with a semi-cylindrical blade. Findings of curry combs in archaeological contexts are rare but early examples have angular-sectioned blades. Semi-cylindrical blades are assumed to be a later development, with examples from London dating back only as far as the 15th century (Clark 1995, 163). However Cat No 56 and the more fragmentary Cat No 57 both predate that, being later 13th- and early 14th-century respectively. The two-piece, five-armed tang of Cat No 56 is unusually elaborate, compared to other excavated examples and those seen in contemporary illustrations. Typically the handle tang divides into either two or three parts, each terminal being riveted to the blade. Here the three inner arms are augmented by a semicircular part making up the two outer arms. It seems likely that the semicircular outer arms represent a later repair. Little of the three



Illus 127 Fe. Horseshoe nail typology (after Ford and Walsh, 1987; Clark, 1995).

inner arms now survive, but its terminals underlie those for the outer arms. The outer section may have been riveted to the comb blade and to the remains of the original tang for extra strength.

Horseshoes with wavy outline (Clark Type 2)

26 (10) Horseshoe Fe

Arm with wavy edge and folded calkin, and rectangular countersunk nail holes. Length 100mm; width 55+mm; web 13–15mm. 11th to 13th century.

A9433; NX2; C3757–2; MC013, T3757; Phase Ic; Rig VI
Illus 126

27 (155) Horseshoe Fe

Arm tip with wavy edge, folded calkin and rectangular countersunk nail holes. Length 52+mm. 11th to 13th century.

A6993; L1455; DX125; C3597?–2; B5, Destruction; Phase IIa–IIff; Rig V
Not illustrated

28 (165) Horseshoe Fe

Arm and toe with wavy edge, right angle or double folded calkin on complete arm and rectangular countersunk nail holes. Length 125mm; width 91+mm, web 16mm. 11th to 13th century

A9848; L0974; X087; DX076; C2692–3; B21, North Room–Occupation (1b); Phase IIff; Rig VI
Illus 126

29 (228) Horseshoe Fe

Arm with wavy edge, folded or double folded calkin and rectangular countersunk nail holes. Length 107mm; width 70+mm; web 17mm. 11th to 13th century.

A10235; L1047; X115; DX096; C2611–3; M1.2, Pit 2648; Phase <IIg(IIh); Rig VI
Illus 126

30 (289) Horseshoe Fe

Arm fragment with wavy edge and rectangular countersunk nail holes. Length 69+mm; web 18mm. 11th to 13th century.

A11443; L1032; X110; DX092; C3881–1; MC112a; Phase <IIg–IIla; Rig VII
Not illustrated

31 (405) Horseshoe Fe

Near complete shoe with slightly wavy edge, folded calkin on complete arm and rectangular countersunk nail holes. Length 94mm; width 100mm; web 24mm. 11th to 13th century. A6588; L4025; DX092; C2508–3; P2.3a; Phase IVaa; Rig V
Not illustrated

32 (453) Horseshoe Fe

Arm and toe of shoe with thickened calkin on complete arm. Length 112mm; width 99+mm; web 17mm. 11th to 13th century. A8491; L0920; NX6; DX119; C2516–3; B2, Floor (2a); Phase IVa,IVaa; Rig VI
Illus 126

33 (454) Horseshoe Fe

Arm fragment with slightly wavy edge and countersunk nail holes. Length 60+mm; width 80+mm; web 19mm. 11th to 13th century. A8481; L0937; NX13; DX116; C2588–3; B2, Floor (2a); Phase IVa,IVaa; Rig VI
Not illustrated

34 (465) Horseshoe Fe

Arm fragment with countersunk nail holes. Length 76+mm; web 22mm. 11th to 13th century. A7831a; L1431; X052m; DX043; C2546–3; B3 (South), Occupation (1b); Phase IVa,IVaa; Rig V
Not illustrated

35 (563) Horseshoe Fe

Arm and toe with worn calkin and countersunk rectangular nail holes. Length 102mm; width 60+mm; web 21mm. 11th to 13th century. A04–0571; L1197; X223m; DX170; C7307–7; B18 (Phase 1/2); MF7307; Phase IVaa,IVb; Rig VII
Not illustrated

36 (631) Horseshoe Fe

Near complete shoe with wavy outer edge (?), right angled calkin on complete arm and countersunk nail holes. Length 115mm; width 106mm; web 25mm. 11th to 13th century. A04–0568; L1199; X224; DX171; C7306–7; B18 (Phase 2a), North Room and Hall–Construction (1); Phase IVb; Rig VII
Illus 126

37 (740) Horseshoe Fe

Arm tip with worn calkin and countersunk rectangular nail holes. 11th to 13th century. A04–0605; L1165; X225m; C6162–10; M9b(a); Phase IVc; Rig VIII
Not illustrated

38 (755) Horseshoe Fe

Arm tip with wavy outer edge, folded calkin and rectangular countersunk nail holes. Length 66+mm. 11th to 13th century. A9529; L0976; X050m; D117, DX041; C2530–3; MC155, Pit 2691; Phase IVb,IVc; Rig V
Not illustrated

39 (759) Horseshoe Fe

Complete small shoe with slightly wavy edge and rectangular countersunk nail holes. Length 79mm; width 60mm; web 17mm. 11th to 13th century. A9505d; L0984; X085; D113, D114, D115, DX074; C2530–3; MC155, Pit 2691; Phase IVb,IVc; Rig V
Illus 126

40 (777) Horseshoe Fe

Arm fragment from small shoe with wavy edge and countersunk nail holes. Length 623+mm; width 49mm; web 8mm. 11th to 13th century. A6342; L2174; C2476–3; M1.4d; Phase IVb,IVc; Rig VI
Illus 126

41 (790) Horseshoe Fe

Arm with calkin and ?countersunk nail holes. Length 101mm; width 56+mm; web 20mm. 11th to 13th century. A8078a; L4021; X142, NX13; DX130; C2567–3; M1.4d, Pit 2566; Phase IVb,IVc; Rig VI
Not illustrated

42 (842) Horseshoe Fe

Near complete shoe with wavy edge, narrow feathered heel (?) on complete arm and rectangular countersunk nail holes. Length 111mm; width 100mm; web 17mm. Found with Type H horseshoe nail still in place (A5221b). 11th to 13th century. A5221a; L4029; X079m, X099m; DX068, DX069; C2462A–3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Illus 126

43 (1895) Horseshoe Fe

Arm tip, with wavy edge and countersunk nail hole. Length 42+mm. 11th to 13th century. A0209b?; L0218; C0054–5&A; CG028; Phase 15–18; Rig VII (North Sector)
Not illustrated

Horseshoes with broad web and smooth outline (Clark Type 3/4)

44 (926/927) Horseshoe Fe

Two fragments from horseshoe arm with folded calkin and ?square nail holes. Length 103+mm; width 73+mm; web 28mm. 13th to 15th century. A04–0525a,b; L1230; X216; DX163; C7263–7; P8.3; Phase IVc,IVcc; Rig VII
Not illustrated

45 (942) Horseshoe Fe

Arm with folded calkin and rectangular countersunk nail holes. Length 73+mm; web 25mm. 13th–14th century. A04–0512; L1240; X221m; DX168; C7227–7; M9a; Phase IVc,IVcc; Rig VII
Not illustrated

46 (1069) Horseshoe Fe

Arm tip with ?square nail holes. Heavily corroded. Length 87+mm; web 25mm. 13th to 15th century. A6576; L2209; X133m; DX114; C2466A–3; MC165; Phase Va; Rig V
Not illustrated

47 (1441) Horseshoe Fe

Arm and toe from a shoe with broad web, calkin and rectangular countersunk nail holes. Length 104mm; width 88+mm; web 27mm. 13th to 14th century.
A04–0176; L4128; X197; DX145; C7093–7; B53 (Phase 2), North Area–Occupation (7b); Phase Vbb; Rig VII
Illus 126

**Horseshoe fragments of indeterminate type
(all broken off at the first nail hole)**

48 (314) Horseshoe Fe

Arm tip with rectangular countersunk nail hole. Length 43+mm.
A8066c; X128; DX109; C2527B–3; MC117, Pit 4695; Phase IIe–IIIc; Rig V
Not illustrated

49 (879) Horseshoe Fe

Arm tip with ?right-angle calkin and countersunk nail holes. Length 53+mm.
A6348; L2178; X109m; DX091; C2462A–3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Not illustrated

50 (1195) Horseshoe Fe

Arm tip with folded calkin and countersunk nail holes. Length 55+mm.
A6511; L2219; X149m; DX130; C2404–3; M1.5a; Phase Va,Vaa(VI); Rigs V and VI
Not illustrated

51 (1347) Horseshoe Fe

Arm tip with folded calkin and countersunk nail hole. Length 57+mm.
A04–0270; L4049; X207m, NX13; DX155; C7129–7; B53 (Phase 1), Central Area–T7152; Phase Vb; Rig VII
Not illustrated

52 (1453) Horseshoe Fe

Fragment of arm tip with countersunk nail hole. Length 41+mm.
A04–0155; L4166; X195m; C7090–7; B53 (Phase 2), North Area–Occupation (8); Phase Vbb; Rig VII
Not illustrated

Bridle bits**53 (1621) Bridle bit Fe**

Mouthpiece link, broken. Length 59+mm.
A04–0205; L3930; NX2; C7021–7; B52–Floor; Phase Vd,Vdd; Rig VII
Not illustrated

54 (1653) Bridle bit Fe

Snaffle bit cheekpiece, with part of mouthpiece link, both parts broken. Length 65+mm; width 34mm
A2661; L0189; X147, NX4; DX128; C2743–2; Building V, Pit 2743; Phase VI; Rig V
Not illustrated

Curry combs**55 (750) Curry comb Fe**

Terminal for curry comb handle. Length 55mm, width 22mm.
A5228; L2236; C2483–3; MC155; Phase IVb,IVc; Rig V
Not illustrated

56 (782) Curry comb Fe

Curry-comb with five-armed handle riveted to semicircular-sectioned comb. Comb near complete with serrated edges. Handle, now incomplete and lacking tang, comprises two parts, originally riveted together, one semicircular shaped, forming the two outer arms, still largely intact, the other forked, making up the three inner arms, now largely lost, though rivet holes in comb edge show where arms were fixed. Overall width 143mm; comb 54mm by 23mm.
A8356; L0919; X029; DX024; C2476–3; M1.4d; Phase IVb,IVc; Rig VI
Illus 126

57 (1155) Curry comb Fe

Fragment of semicircular-sectioned comb with serrated edge. Length 56+mm; width 33+mm.
A6522; L2215; X129m; DX110; C2189–4; M1.5a; Phase Va,Vaa; Rigs V and VI
Not illustrated

Knives, scissors and shears**Knives (58–100)**

Of the 52 knives found, nine were identified as leather-workers' knives and are discussed below with other leatherworking tools. The remaining 43 discussed here were more general purpose implements. Several of the knives were found with their wooden handles still attached, including three from the same building (Cat Nos 89–91). Knives are typically the most common tools found on any medieval site. They were carried by a large number of men and women, and were used both for eating and as a general purpose tool which could be turned to self defence if needed.

All but one were whittle tanged, where the tang is narrow and set inside a thicker handle. The one scale tang knife (Cat No 98) was unstratified and is of unusual form. Scale tang knives, where the tang is the same width as the handle, are recorded from London as early as the mid 14th century and due to their greater strength and opportunity for decorative handles, by the early 15th century were out-numbering whittle tang knives (Cowgill et al 1987). This dating seems to follow in Scotland. In other Perth assemblages scale tangs appear from the mid to late 14th century onwards (Cox 1996a, 720; Ford 1987, 131). The present assemblage contains only four knives dating to the mid to later 14th century (Cat Nos 92–95) and all are whittle tanged.

The Perth knives are here presented chronologically rather than typologically. Damage and corrosion as well as sharpening has obscured or changed the shape

of many blades and thus a strict typology may well be misleading. However, some typological trends are apparent. There are at least three examples of blades with backs that angle or curve sharply down to the tip (Cat Nos 66, 97, 99). These are an early type, classified by Ottaway as Type A (Ottaway 1992, 561–5). They are known from the later Roman period onwards and dwindle in numbers after the 11th century. The only stratified example of the Perth angle-backed blades dates to the late 12th century (Cat No 66). Also early are two blades (Cat Nos 59, 62) with curved backs that widen slightly before tapering to a point. Both are early 12th century. The majority of the whittle tanged blades however, taper from the shoulder. Several of the knives show distinct concave edges to the blade where sharpening has worn away part of the blade.

Burial conditions in Perth mean an unusual number of the knives were found with significant remains of their handles. Ten knives in all had handle remains, six of which were complete. All were of wood, typically round or oval-sectioned roundwood. The tang was typically about half the length of the handle. The wood has not been identified but elsewhere the most common type used was box (Cowgill et al 1987, 25). One (Cat No 92) was of distinctly knotty wood. This was also noted in London, though it is not known if it was deliberately chosen for its decorative properties, or because it was not suitable for anything else (Cowgill et al 1987, 25). Two handles were decorated (Cat Nos 59, 95), both using copper alloy end-plates threaded onto the blade end of the tang, forming the front end of the handle, in both cases, combined with organic elements. The most elaborate of these is one of the earliest knives from the site (Cat No 59), with 14 thin heater-shaped copper alloy plates interleaved with thin organic, probably bone, plates, and a void in the middle for a wide organic part, since lost to decay (cf Cowgill et al 1987, fig 54:15; Goodall 1993a, fig 93:818).

One early knife is decorated on the blade by means of pattern welding (Cat No 65). Here the decoration was achieved by twisting iron rods and welding them into the blade. The method was used in London on four knives of similar, late 12th- to mid 13th-century date. The blade was also unusual in having fluted channels running along each side.

Another early knife (Cat No 64) is remarkable for its size. Its blade, at 320mm, is in fact longer than some daggers (Ward Perkins 1940, 40–55). It has a very simple roundwood handle. The tang in this case is longer than the handle and is clenched at the end forming a hook over the end of the handle to give it extra strength. The blade is rather wide, with the back running parallel to the blade edge for most of its length, curving to a point towards the tip. It is not a particularly subtle or finely made knife, and not easy to carry or conceal as might be required for a knife dagger. Its intended use might be more prosaic, such as in a large kitchen.

A metallurgical study of knives found in Perth at Meal Vennel and Scott Street showed some high quality

smithing being executed in the burgh (Harrison 1996). However, none of the Perth knives, from this or any other published medieval assemblage, were marked with cutler's marks. These are generally seen on the backs of blades, stamped and sometimes inlaid with copper alloy. They are common on knives from medieval London (Cowgill et al 1987, 17–24) and regular finds from other English urban excavations, but are very rare in Scotland. Possibly there was not the same organisation and regulation as in England.

Shears and scissors (101–8)

There were six pairs of shears dating from the later 12th to mid 14th century, though most belonged to the second half of the 13th century. All are of similar form, the only difference being in the area at the join between the back of the blade and the arm, which is sometimes ornamented, usually with a small cusp (though Cat No 101 takes more unusual form). They range in size from under about 90mm (Cat No 105) to 323mm (Cat No 104), the length of the blade being typically just under half the overall length. Scissors are represented by only two blade fragments (Cat Nos 107, 108), of later 13th- and early 14th-century date. These are early examples. Though scissors are known from as early as the 6th century, it was not until the 14th century that they began to come into more common usage. While they were easier to manipulate with one hand, they were difficult to manufacture, requiring a very subtle inward curve to the blades. Shears are known from as early as the Iron Age and were apparently used for most domestic, industrial and agricultural purposes in the early medieval period, including sheep shearing, hair cutting, cloth cutting and general domestic use. While it might be assumed that larger shears were used for industrial or agricultural purposes and smaller for domestic use, it is difficult to assign specific uses for these tools (Cowgill et al 1987, 58–61; Goodall 1993a, 133–6).

12th-century knives

58 (5) Knife Fe

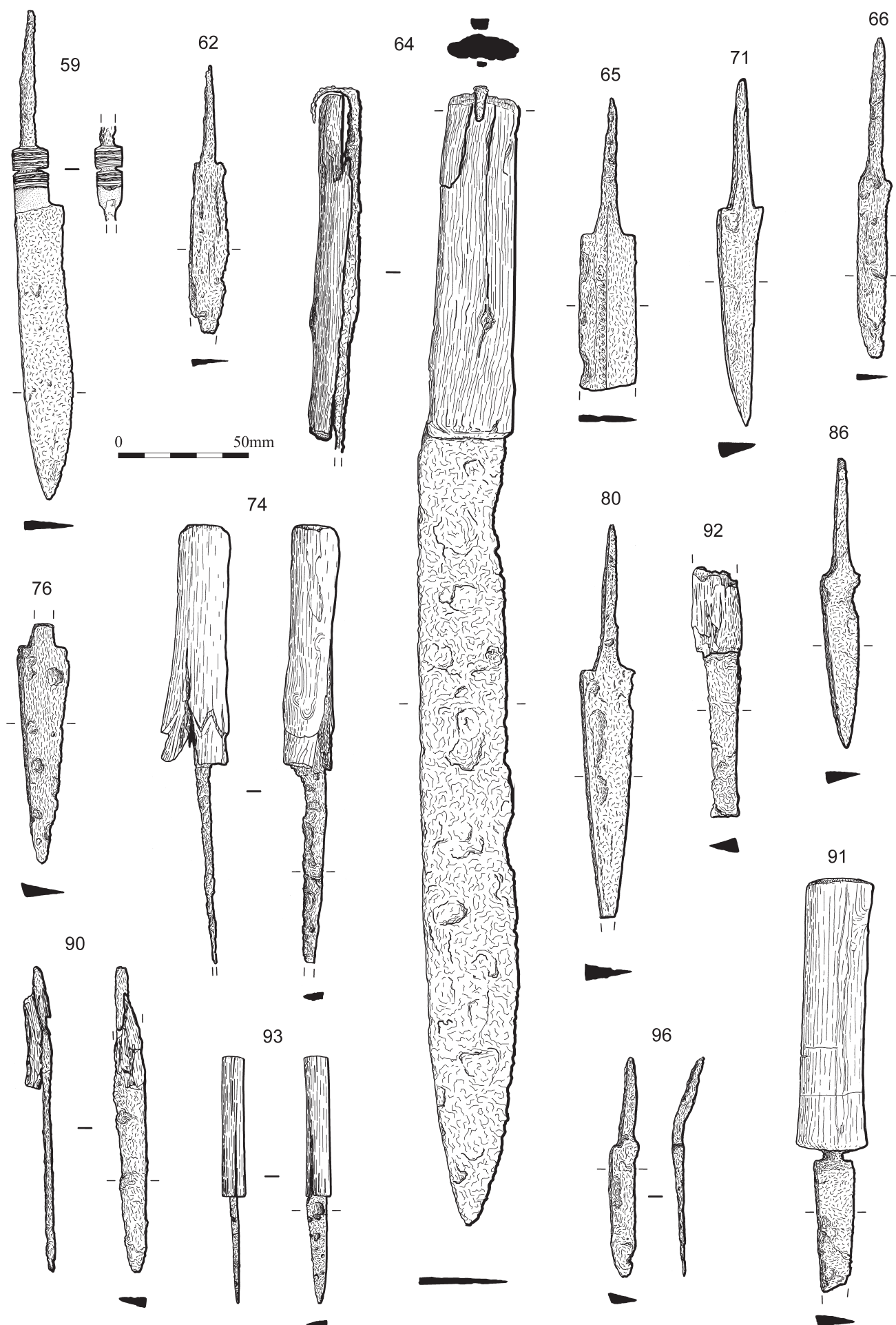
Whittle tang knife, blade and tang broken. Lead lump on tang, possibly remains of a handle? Length 62+mm; blade maximum width 14mm.

A10877; L3894; X050m; D166, DX04; C3860–1; MC007, PP3860A,B; Phase (Ia)Ib; Rig V
Not illustrated

59 (11) Knife Fe and Cu alloy

Whittle tang knife with copper alloy mount and thin sheet, probably bone, plates at junction of tang and blade. Plates heater-shaped, with hole for tang, originally interleaved with others of organic material, now corroded away. Blade edge shaped by sharpening. See also Non-ferrous Cat No 134. Length 184mm; blade length 111mm; blade maximum width 19mm.

A8720; L4046; X030m; D101; C3742–1/2; M2.1b; Phase Ic; Rigs V and VI
Illus 128



Illus 128 Fe. Knives.

60 (13) Knife Fe

Whittle tang knife, tang broken. Blade tapers from shoulder. Blade length 110mm; blade maximum width 16mm. A10872; L1018; X062m; D139, DX053; C4538–4; MC017; Phase Ia–Icc>; Rigs V/VI
Not illustrated

61 (36) Knife Fe

Whittle tang knife, blade and ?tang complete. Blade tapers from shoulder. Length 104mm; blade length 76mm; blade maximum width 13mm. A12488a; L0942; X060m; D157, DX051; C5158–3; MC037a, Pit 5157; Phase Ia–Ie; Rig VI
Not illustrated

62 (52) Knife Fe

Whittle tang knife, blade and tang broken. Back curving. Length 100+mm; maximum blade width 15mm. A10883; L4035; X238m; C5007–3; MC034a; Phase Ie(Ilf); Rig V
Illus 128

63 (111) Knife Fe

Whittle tang knife, tang and blade broken. Back curving. Length 94+mm; maximum blade width 15mm. A2335; L0250; X139; DX120; C3058–1; M14a, Pit 3040; Phase Id–IIc; Rig V
Not illustrated

64 (148) Knife (with handle) Fe and wood

Large whittle tang knife with wooden handle (Wood Cat No 108). Round wood handle, compressed and split in half, exposing the tapering whittle tang. After being driven through handle, tang's narrow pointed end was worked into a hook to prevent the long heavy blade from working loose. Overall length 438mm; blade length 320mm (20mm was masked by handle); maximum blade width 35mm; maximum thickness 2mm; handle length 131mm; original diameter 27–32mm; A6084; L4257; C3582–2; M1.1d and M1.1e; Phase IId–IIIf; Rig VI
Illus 128

65 (215) Knife Fe

Whittle tang knife with pattern-welded blade and fluted channel running down both sides. Straight backed blade, broken. Length 109+mm; maximum blade width 21mm. A9101a; L4038; X106m, NX11, NX17; DX090; C2611–3; M1.2, Pit 2648; Phase <IIg(IIh); Rig VI
Illus 128

66 (257) Knife Fe

Whittle tang knife blade, tip broken. Back curves downwards towards tip. Length 121+mm; maximum blade width 12mm. A8358; L0918; X124m; DX115; C2250–4; M1.3; Phase Ili; Rig VI
Illus 128

13th-century knives**67 (316) Knife Fe**

Whittle tang knife, blade broken, tang distorted. Length 75+mm; maximum blade width 14mm. A8490; L0921; X140m; DX121; C2527B–3; MC117, Pit 4695; Phase IIe–IIIf; Rig V
Not illustrated

68 (371) Knife Fe

Whittle tang knife, straight back. Blade broken. Length 46+mm; maximum blade width 12mm. A8005; L0933; C2243–4; M1.4a(b); Phase IIIa–IVa; Rig VI
Not illustrated

69 (423) Knife (with handle) Fe and wood

Whittle tang knife with wooden handle (Wood Cat No 220). Handle with smooth finish, almost circular cross section. Blade and tang corroded. Overall length 135+mm; handle length 99mm; handle width 29mm by 31mm. A5185; X237m; C2823–2; B26–Floor/Occupation (8b); Phase IIg–IVaa; Rig V
Not illustrated

70 (438) Knife Fe

Whittle tang fragment with clenched tip. Length 122+mm. A04–0698; L2153; X234m; C7375–7; MC130; Phase <IIIf–IVaa; Rig VII
Not illustrated

71 (455) Knife (with handle) Fe and wood

Whittle tang knife, complete (see Wood Cat No 228). Blade back tapers, cutting edge shaped by sharpening. Length 133mm; blade length 85mm; maximum blade width 17mm. A11254; L2295; X070m; C2588–3; B2–Floor (2a); Phase IVa,IVaa; Rig VI
Illus 128

72 (512) Knife Fe

Whittle tang knife, tang broken. Blade tapers from shoulder. Length 78+mm; blade length 70mm; maximum blade width 12mm. A04–0633; L2111; X230m; DX177; C7336–7; MC126, Pit 7402; Phase IVaa,IVb; Rig VII
Not illustrated

73 (660) Knife Fe

Whittle tang knife, blade and tang broken. Thick but narrow tapering blade. Length 59+mm; maximum blade width 21mm. A04–0559; L5194; C7300–7; B18 (Phase 2a), Hall–Occupation (9c); Phase IVb; Rig VII
Not illustrated

74 (661) Knife (with handle) Fe and wood

Whittle tang knife with wooden handle (Wood Cat No 284). Handle of round cross-section, with simple relief carving at blade end. Roundwood, badly split. Short length of tang visible between handle and blade. Blade tip lost, cutting edge shaped by sharpening. Overall length 162+mm; blade length 73+mm; maximum blade width 9mm; handle length 89mm; width 16mm by 19mm. A04–0313; X170m; D098; C9174–9; B18 (Phase 2a), Hall South–Occupation (3); Phase IVb; Rig VII
Illus 128

75 (715) Knife Fe

Blade fragment, very slender. Length 85+mm; maximum blade width 23mm. A04–0288; L4062; X209m; D091; C9132–9; B18 (Phase 2b), North Room, Hall and Hall South–Occupation (10); Phase IVb; Rig VII
Not illustrated

76 (772) Knife Fe

Whittle tang knife, tang broken. Blade tapers from shoulder. Length 91+mm; blade length 82mm; maximum blade width 19mm. A5222; L2740; C2476–3; M1.4d; Phase IVb,IVc; Rig VI
Illus 128

77 (784) Knife Fe

Blade fragment. Blade tapers from shoulder. Length 64+mm; maximum blade width 11mm. A8478a; L0914; C2476–3; M1.4d; Phase IVb,IVc; Rig VI
Not illustrated

78 (799) Knife Fe

Whittle tang from knife. Length 62+mm. A04–0520a; L1233; C7258–7; M1.4h; Phase IVc; Rig VI
Not illustrated

79 (934) Knife Fe

Blade fragment. Length 37+mm; maximum blade width 10mm. A04–0156; L4105; X195m; C9021–9; P8.3; Phase IVc,IVcc; Rig VII
Not illustrated

80 (943) Knife Fe

Whittle tang knife, blade tip broken. Blade tapers from shoulder. Length 147+mm; maximum blade width 20mm. A04–0514; L1238; X217m; DX164; C7227–7; M9a; Phase IVc,IVcc; Rig VII
Illus 128

81 (974) Knife Fe

Whittle tang knife, tang broken. Blade tapers from shoulder. Length 84+mm; blade length 79mm; maximum blade width 14mm. A04–0162; L4181; X196m; DX144; C9038–9; M9a; Phase IVc,IVcc; Rig VII
Not illustrated

82 (993) Knife Fe

Whittle tang knife, tang broken. Blade tapers from shoulder. Length 83+mm; maximum blade width 10mm. A04–0220; L3917; C9077–9; M9a, Pit 9078; Phase IVc,IVcc; Rig VII
Not illustrated

14th-century knives**83 (1078) Knife Fe**

Whittle tang knife, blade and tang broken. Length 84+mm; maximum blade width 16mm. A10729a; L1012; X091m; DX080; C2423–3; MC165, Pit 2465; Phase Va(VI); Rig V
Not illustrated

84 (1083) Knife Fe

Whittle tang knife, blade and tang broken. Blade tapers from shoulder, cutting edge possibly shaped by sharpening. Length 77+mm; maximum blade width 11mm. A04–0428; L0623; C7184–7; P8.4; Phase Va; Rig VII
Not illustrated

85 (1108) Knife Fe

Whittle tang knife. Blade back level then tapers to tip, blade shaped by sharpening. Length 130mm; blade length 95mm; maximum blade width 14mm. A04–0367; L0578; C7186–7; P8.4; Phase Va; Rig VII
Not illustrated

86 (1182) Knife Fe

Whittle tang knife. Blade tapers from shoulder. Length 108mm; blade length 76mm; maximum blade width 15mm. A3565; L0204; X106m; DX090; C2404–3; M1.5a; Phase Va,Vaa(VI); Rigs V and VI
Illus 128

87 (1252) Knife Fe

Whittle tang knife, blade broken. Length 65+mm; maximum blade width 17mm. A04–0332; L0553; C7169–7; M1.5b; Phase Vaa; Rigs VI and VII
Not illustrated

88 (1348) Knife Fe

Blade tip. Length 51+mm; maximum blade width 10mm. A04–0272; L4059; C7129–7; B53 (Phase 1), Central Area–T7152; Phase Vb; Rig VII
Not illustrated

89 (1415) Knife (with handle) Fe and wood

Knife handle with corroded whittle tang inside round socket. Handle of roundwood with round section (Wood Cat No 546). Band, 8mm wide at blade end is compressed, either from original metal mounting or from repair, attempting to secure loosened tang. Length 87mm; diameter 12–15mm. A04–0096; X171m; C7072–7; B53 (Phase 2), North Area–T7072; Phase Vbb; Rig VII
Not illustrated

90 (1430) Knife (with handle) Fe and wood

Whittle tang knife with tang and blade tip broken. Small fragment of wood adhering to tang (Wood Cat No 553). Tapering blade. Length 114+mm; maximum blade width 11mm. A04–0157; NX4; C7071–7; B53 (Phase 2), South Area–Occupation (7a); Phase Vbb; Rig VII
Illus 128

91 (1462) Knife (with handle) Fe and wood

Whittle tang knife with wooden handle (Wood Cat No 567), blade broken. Narrow rectangular socket for whittle tang. Elliptical-sectioned handle worked from half cleft knotty wood. Overall length 154+mm; handle length 102mm; handle width 18mm by 25mm; maximum blade width 16mm. A04–0112; L3955; X171, X172; D097; C7077–7; B53 (Phase 2), North Area–Occupation (14); Phase Vbb; Rig VII
Illus 128

92 (1576) Knife (with handle) Fe and wood

Whittle tang knife with wooden handle (Wood Cat No 590). Blade broken, round-sectioned handle. Length 128+mm; blade length 61+mm; maximum blade width 14mm; handle length 67mm; handle width 15mm by 15mm. A04–0037a; NX4; C7027–7; M7; Phase Vc; Rig VII
Illus 128

93 (1586) Knife (with handle) Fe and wood

Whittle tang knife with handle (Wood Cat No 592). Smooth, rounded, straight handle, split in three places. Short tapering blade. Overall length 94mm; blade length 41mm; maximum blade width 8mm; handle length 53mm; handle width 9mm by 8mm. A3140; X178; C2150–4; M3b; Phase Vd; Rig VI
Illus 128

94 (1622) Knife Fe

Whittle tang knife, blade and tang broken. Straight backed blade. Length 85+mm; maximum blade width 14mm. A04–0065; L4170; X185m; DX133; C7008–10; B51, T7008, Wall 7007; Phase Vd,Vdd; Rig VIII
Not illustrated

95 (1625) Knife Fe, Cu alloy and wood

Whittle tang with remains of wooden handle (not catalogued) and end cap of at least two copper alloy oval plates flanking organic plate. Blade lost. Length 92mm; end cap 24mm by 14mm. A? (wrongly recorded as A1874); L3890; C?
Not illustrated

Unstratified knives**96 (1691) Knife** Fe

Whittle tang knife, distorted, tip broken. Back curves downwards towards tip. Cutting edge shaped by sharpening. Length 84+mm; maximum blade width 11mm. A7843a; L1427; X144; DX125; C2006–3/4; Unstratified; Rigs V and VI
Illus 128

97 (1698) Knife Fe

Whittle tang knife, blade and tang broken. Blade tapers from shoulder. Length 85+mm; maximum blade width 17mm. A0611; L0260; X103; DX088; C2006–3/4; Unstratified; Rigs V and VI
Not illustrated

98 (1715) Knife Fe

Scale tang knife. Bolster shaped, very slender and supple blade, tip broken. Length 146+mm; maximum blade width 15mm. A04–0132; L3958; D059; C2003–7/10; Unstratified, Sondage 2003; Rigs VII/VIII
Not illustrated

99 (1734) Knife Fe

Whittle tang knife, tang broken. Back angled downwards towards tip, blade shaped by sharpening. Length 91+mm; maximum blade width 16mm. A04–0021; L3971; X164m; D018; C7000–7–10; Unstratified; Rigs VI–VIII
Not illustrated

100 (1816) Knife Fe

Blade fragment, straight back. Length 61+mm; maximum blade width 15mm. A2668; L0192; C0218–5; Garden 1; Phase 15 (North Sector)
Not illustrated

Shears**101 (201) Shears** Fe

Complete shears with tapering blades and decorative notches on back end of blades. Length 234mm; blade length 110mm; maximum blade width 20mm. A9280; L4033; C2342–4; B12–Occupation (1b); Phase IIe–IIg; Rig VI
Illus 129

102 (458) Shears Fe

Distorted but complete. Length 146+mm; blade length 67+mm; maximum blade width 15mm. A04–0687; L2144; X234m; C7364–7; P3.3; Phase IVa–IVb; Rig VI
Illus 129

103 (462) Shears Fe

Distorted, with blade tips broken. Cusped at junction of arm and blade. Length 220+mm; blade length 100+mm; maximum blade width 19mm. A9281; L4036; X183m; C2570–3; B3 (South), T2570; Phase IVa,IVaa; Rig V
Illus 129

104 (488) Shears Fe

Complete but for one blade tip. Cusped at junction of arm and blade. Length 323mm; blade length 157mm; maximum blade width 25mm. A04–0475; L0659; C9327–9; B18 (Phase 1b), North Room and South Room–Occupation (6); Phase IVa,IVaa; Rig VII
Illus 129

105 (546) Shears Fe

Broken bow and blade. Length 72+mm; blade length 32+mm; maximum blade width 8mm. A04–0688; L3820; C7344–7; B18 (Phase 1/2); Phase IVaa,IVb; Rig VII
Not illustrated

106 (1562) Shears Fe

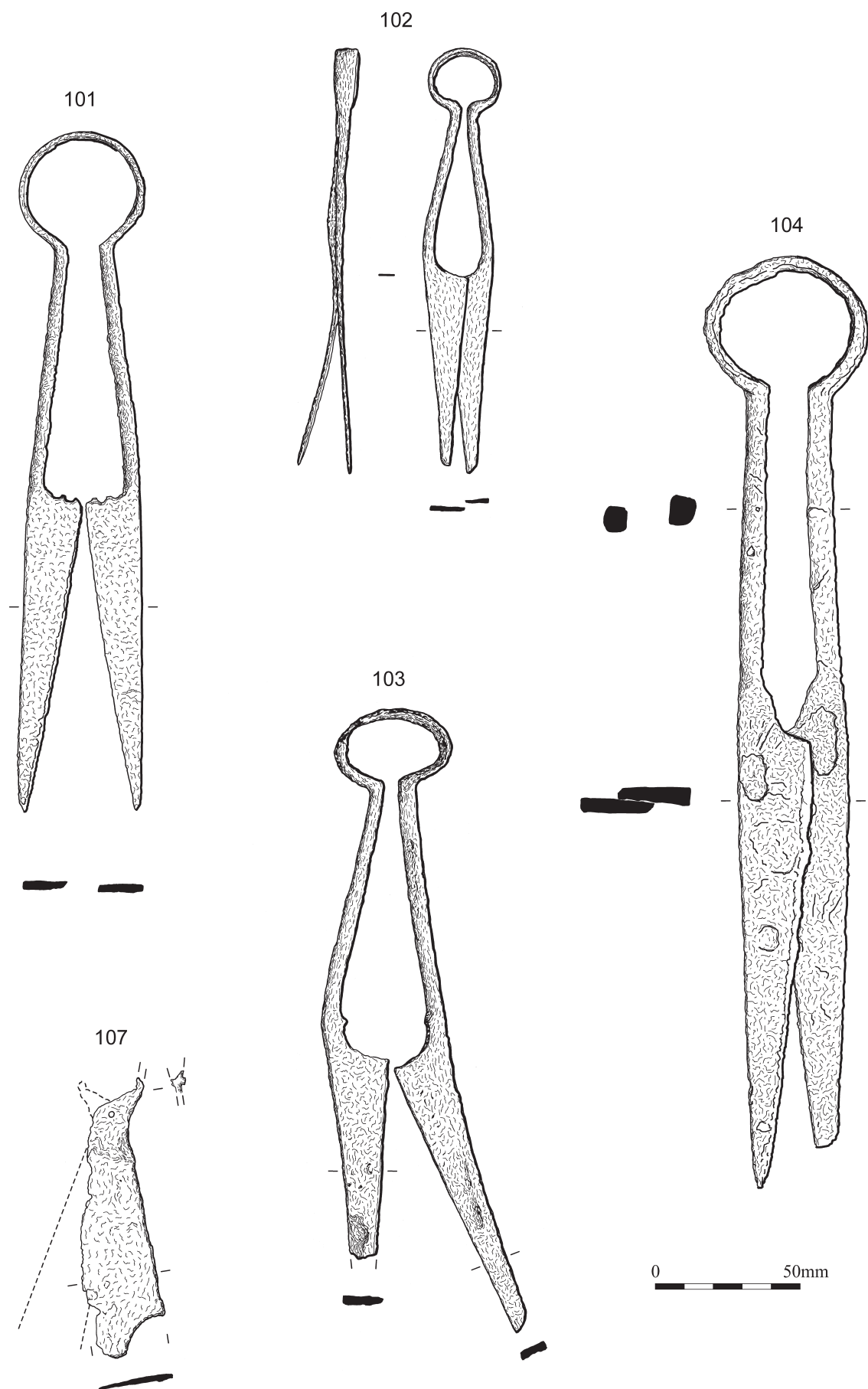
Broken arm and blade. Cusped at junction of arm and blade. Length 96+mm; maximum blade width 22mm. A4478; L0092; X036m, X079m, X080m; D040, DX029; C2180–4; M3a, T2180; Phase Vb–Vc; Rigs V and VI
Not illustrated

Scissors**107 (768) Scissors** Fe

Single arm, blade and finger loop, with pivot hole. Broken. Length 94+mm; blade width 18+mm; thickness 3mm. A10870a; L1014; X049m, X086m; D138; C5042–3; MC155, Pit 2691; Phase IVb,IVc; Rig V
Illus 129

108 (1394) Scissors Fe

Broken blade with beginning of finger loop and pivot hole. Length 97+mm. A04–0198; L4229; X201m; DX149; C7123–7; B53 (Phase 1), North Area–Occupation (1b); Phase Vb; Rig VII
Not illustrated



Illus 129 Fe. Shears Cat Nos 101–104. Scissor blade Cat No 107.

Textile-working tools

Wool or heckle combs (109–134)

Wool combs were used to disentangle and separate fibres ready for spinning, while heckle combs did the same for flax. The teeth were originally mounted in wooden blocks with handles and sometimes bound by sheet iron. Findings of these blocks and bindings show teeth set in two rows of between eight and seventeen teeth (Goodall 1990, 214; Goodall 1993a, 182–4). Teeth can be round or square-sectioned. Heads are most commonly small and roughly shaped, often with a flattening of the top of the shaft. One (Cat No 113) differs in that it has a wedge-shaped head with a groove on the shaft below. These would have been hidden and served only to hold the teeth securely in their block.

The difference between heckle and wool comb teeth can be hard to distinguish, particularly in the early medieval period. Heckle teeth rarely extend more than 110mm, though the same can be said for early medieval wool teeth. After the end of the 12th century wool teeth increase in length to as much as 186mm (Rogers 2002, 2732). The evidence from the 25 Perth teeth is not so clear cut. The seven complete teeth range between 106mm and 193mm in length, including some very long examples from late 12th-century deposits. Only two complete teeth are under 110mm (Cat Nos 112, 130), with potentially a further two (Cat Nos 120, 121) broken examples. The evidence suggests then that most of these are from wool combs rather than heckle combs and thus that wool was being more commonly worked than flax in medieval Perth.

There was also a highly corroded object which appeared to be part of a comb, though with very short iron teeth (Cat No 134). Its function is unclear.

Tenter hook (135)

Tenter hooks were utilised in the stretching of cloth after fulling. Cloth was attached to the hooks and stretched on a wooden frame (Goodall 1990, 234–5). Only one example was identified from the Perth assemblage (Cat No 135).

Needles (136–160)

The soil conditions at Perth have led to the survival of a large number of iron needles, including some very fine examples. There were 25 iron examples in all, compared to 38 of non-ferrous metal (see this Fascicule, A Goodall). Most of the iron needles dated to the second half of the 13th century and the early 14th century (Periods IV to V) and most of these were clustered in Rig VII, though this seem likely to be a matter of favourable depositional conditions, rather than a real pattern of use, with multiple examples from some features (eg MC126, B18, M8a). All were of round section, with no triangular-sectioned leatherworking

needles (cf Biddle and Elmhirst 1990, 807). Eyes were typically made by flattening the head end and then punching a hole through it (Rogers 2002, 2739) and this seems to be the method used here.

In terms of size the Perth iron needles range from 31mm to over 150mm and from 0.5mm wide to 4mm. The finest of these would be for silk work, the largest for sacking. The majority were 1mm wide, ranging from 39mm to 49mm in length, with a cluster between 46mm and 49mm. These would be the standard hand sewing needles of the day, part of everyone's sewing kit, and essentially the same as those used today.

Needles were being mass produced in Nuremberg in the 14th century, with smaller scale local production in Britain (Biddle and Elmhirst 1990, 806). As Perth was a port, it is entirely possible there would have been ready access to imported needles.

Comb teeth

109 (51) Comb tooth Fe

Head broken, round-sectioned. Length 112+mm; width 5mm. A10873; L1017; C3689–2; M14b(a), Pit 3830; Phase Id; Rig V
Not illustrated

110 (78) Comb tooth Fe

Tip broken, square-sectioned shaft, shaped head. Length 136+mm; width 4mm. A6581; L1459; X134m; DX115; C3589–2; MC061; Phase IIb; Rig VI
Not illustrated

111 (131) Comb tooth Fe

Tip broken, round-sectioned shaft, shaped head. Length 122+mm; width 5mm. A10763; L1013; NX1; C5055–3; MC066; Phase IIc; Rig VI
Not illustrated

112 (153) Comb tooth Fe

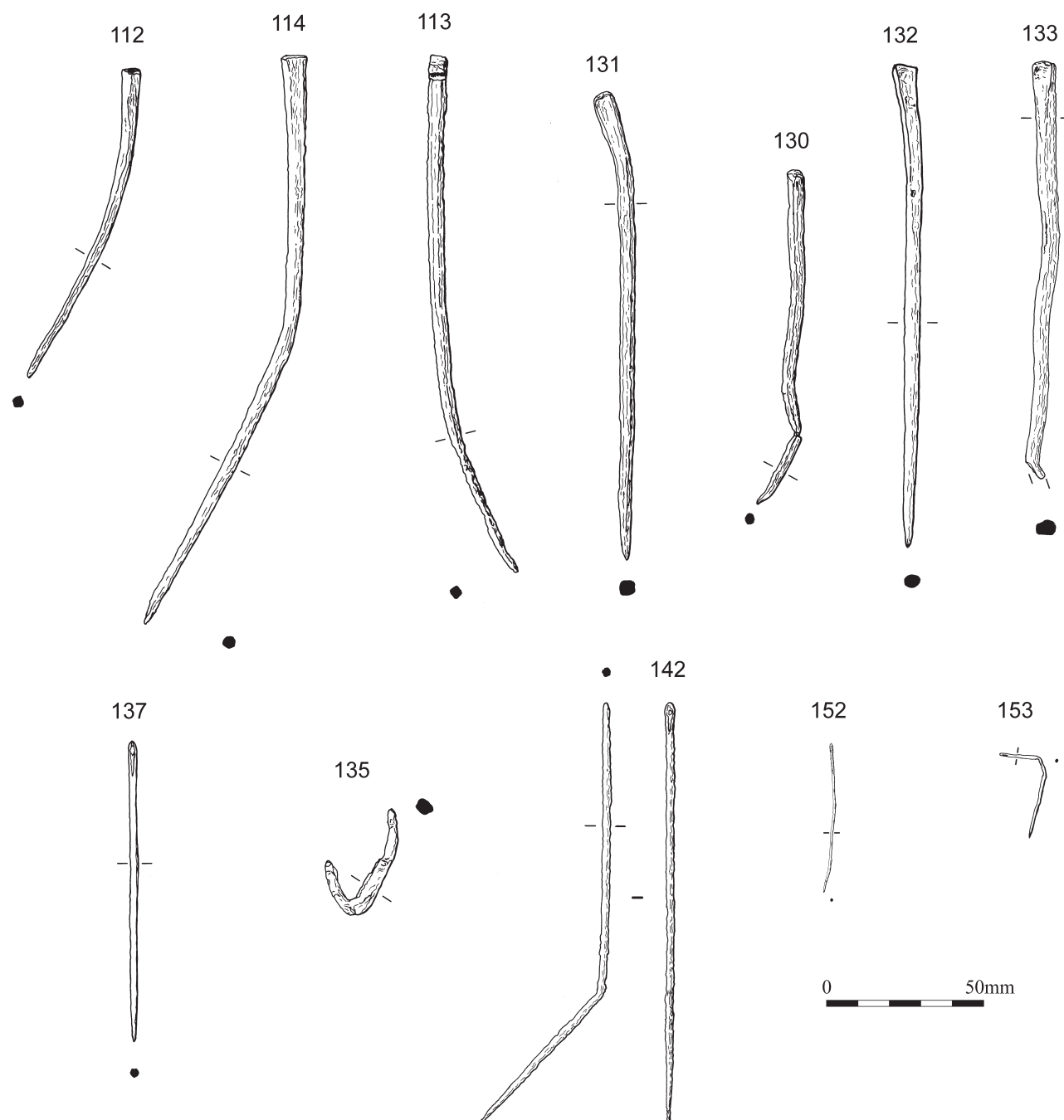
Complete, round-sectioned shaft, flattened and shaped head end. Length 106mm; width 3mm. A6997; L0962; C3591–2; B5, North Room–Floor/Occupation (1); Phase IIa–IIff; Rig V
Illus 130

113 (197) Comb tooth Fe

Complete, head narrows in wedge shape with groove and bar below, subrectangular-sectioned shaft. Length 171mm; width 4mm. A9486; L0989; C2340–4; B12, Pit 2340; Phase IIe–IIg; Rig VI
Illus 130

114 (247) Comb tooth Fe

Complete, round-sectioned shaft, flattened and shaped head end. Length 193mm; width 5mm. A9513; L0980; C2289–4; M11; Phase IIh; Rigs V and VI
Illus 130



Illus 130 *Fe. Comb teeth Cat Nos 112–114, 130–133. Tenter hook Cat No 135. Needles Cat Nos 137, 142, 152, 153.*

115 (392) Comb tooth Fe

Tip broken, round-sectioned shaft, flattened and shaped head end. Length 169+mm; width 5mm.

A6354; L2182; C2203–4; MC143; Phase IVaa; Rig V

Not illustrated

116 (467) Comb tooth Fe

Both ends broken, round-sectioned shaft. Length 127+mm; width 5mm.

A7831c; L1431; X052m; DX043; C2546–3; B3 (South),

Occupation (1b); Phase IVa, IVaa; Rig V

Not illustrated

117 (501) Comb tooth Fe

Head broken, round-sectioned shaft. Length 133+mm; width 4mm.

A6459; L1422; C2533–3; MC158b, Pit 2526A; Phase IVaa;

Rig V

Not illustrated

118 (594) Comb tooth Fe

Head broken, round-sectioned shaft. Length 146+mm; width 5mm.

A04–0645; L1140; C7335–7; M1.4f; Phase IVc; Rig VI

Not illustrated

119 (633) Comb tooth Fe

Complete, flattened and shaped head end. Length 184mm; width 5mm.
A04–0578; L1191; C7306–7; B18 (Phase 2a), North Room and Hall–Construction (1); Phase IVb; Rig VII
Not illustrated

120 (726) Comb tooth Fe

Tip broken, flattened and shaped head end. Length 95+mm; width 5mm.
A04–0319; L0542; C9182–9; B18 (Phase 2b), Hall and Hall South–Occupation (12a); Phase IVb; Rig VII
Not illustrated

121 (855) Comb tooth Fe

Head broken. Length 109+mm; width 4mm.
A5514; L2252; X052m; DX043; C2488–3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Not illustrated

122 (907) Comb tooth Fe

Tip broken, flattened and shaped head end. Length 109+mm; width 4mm.
A10727e; L0885; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Not illustrated

123 (1159) Comb tooth Fe

Head broken, round-sectioned shaft. Length 140+mm; width 5mm.
A1169a; L0123; C2404–3; M1.5a; Phase Va,Vaa(VI); Rigs V and VI
Not illustrated

124 (1264) Comb tooth Fe

Tip broken, broadens towards head. Length 107+mm; width 4mm.
A04–0369; L0580; C7169–7; M1.5b; Phase Vaa; Rigs VI and VII
Not illustrated

125 (1318) Comb tooth Fe

Tip broken, flattened and shaped head end. Length 162+mm; width 5mm.
A04–0442; L0635; C7201–7; M8a; Phase Va,Vaa; Rig VII
Not illustrated

126 (1372) Comb tooth Fe

Tip broken, flattened and shaped head end. Length 124+mm; width 4mm.
A04–0261; L4055; C7113–7; B53 (Phase 1), Central Area–Occupation (2a); Phase Vb; Rig VII
Not illustrated

127 (1431) Comb tooth Fe

Both ends broken, round-sectioned shaft. Length 117+mm; width 4mm.
A04–0159; L4154; C7071–7; B53 (Phase 2), South Area–Occupation (7a); Phase Vbb; Rig VII
Not illustrated

128 (1460) Comb tooth Fe

Both ends broken and bent. Length 140+mm; width 4mm.
A04–0170; L4210; X197; DX145; C7095–7; B53 (Phase 2), North Area–Occupation (9b); Phase Vbb; Rig VII
Not illustrated

129 (1464) Comb tooth Fe

Both ends broken, round-sectioned shaft. Length 107+mm; width 5mm.
A04–0126; L3952; X213m; D054, DX161; C7077–7; B53 (Phase 2), North Area–Occupation (14); Phase Vbb; Rig VII
Not illustrated

130 (1543) Comb tooth Fe

Complete but distorted, round-sectioned shaft, shaped head. Length 110mm; width 4mm.
A3932a; L0171; X072m; C2177–4; M3a; Phase Vb-Vc; Rigs V and VI
Illus 130

131 (1544) Comb tooth Fe

Complete, sub-rectangular-sectioned shaft, flattened and shaped head end. Length 150mm; width 4mm.
A3932b; L0171; X072m; C2177–4; M3a; Phase Vb-Vc; Rigs V and VI
Illus 130

132 (1561) Comb tooth Fe

Complete, flattened and shaped head end. Length 154mm; width 4mm.
A5513; L2251; C2182–4; M3a; Phase Vb-Vc; Rigs V and VI
Illus 130

133 (1565) Comb tooth Fe

Tip broken, round-sectioned shaft flattened head. Length 134+mm; width 5mm.
A6463; L2227; C2186–4; M3a; Phase Vb-Vc; Rigs V and VI
Illus 130

Comb**134 (1214) Comb Fe**

Iron teeth embedded in lump of earth with traces of an iron sheet centre plate. Long teeth c20mm long, placed every 4mm; with some shorter teeth, c3mm long.
A04–0119; L4258; C7079–7; M1.5b; Phase Vaa; Rigs VI and VII
Not illustrated

Tenter hook**135 (380) Tenter hook Fe**

Complete, both arms distorted. Length 39mm; width 22mm.
A7837b; L1440; NX1; C2528–3; P2.2b; Phase IVa; Rig V
Illus 130

Needles**136 (240) Needle Fe**

Complete but distorted. Length 39mm; width 1mm.
A8489; C2239–4; M11; Phase IIh; Rigs V and VI
Not illustrated

137 (294) Needle Fe

Complete. Length 95mm; width 2mm.
A04–0637; L1145; C9500–9; P8.0; Phase IIIa,IIIb; Rig VII
Illus 130

138 (497) Needle Fe

Broken tip and eye. Length 52+mm; width 2mm.
A5220; L2231; C2206–4; B11, T2206, WW2206; Phase IVaa;
Rig VI
Not illustrated

139 (514) Needle Fe

Complete. Length 49mm; width 1mm.
A04–0642a; L2504; X232M; DX179; C7336–7; MC126, Pit 7402;
Phase IVaa,IVb; Rig VII
Not illustrated

140 (521) Needle Fe

Head lost. Length 36+mm; diameter 1mm.
A04–0632b; L2110; X230M; DX177; C7342–7; MC126, Pit 7402;
Phase IVaa,IVb; Rig VII
Not illustrated

141 (not used)**142 (535) Needle Fe**

Complete but distorted. Length 150mm; width 4mm.
A04–0653; L1136; C7348–7; MC126, Pit 7402; Phase IVaa,IVb;
Rig VII
Illus 130

143 (537) Needle Fe

Head broken. Length 65+mm; width 1.5mm.
A04–0593b; L1177; C7310–7; B18 (Phase 1/2); Phase IVaa,IVb;
Rig VII
Not illustrated

144 (539) Needle Fe

Head broken. Length 66+mm; width 2mm.
A04–0598b; L1172; C7310–7; B18 (Phase 1/2); Phase IVaa,IVb;
Rig VII
Not illustrated

145 (542) Needle Fe

Complete. Length 48mm; width 1mm.
A04–0644; L1487; C7320–7; B18 (Phase 1/2); Phase IVaa,IVb;
Rig VII
Not illustrated

146 (632) Needle Fe

Eye broken. Length 77+mm; diameter 1.5mm.
A04–0569; L1198; C7306–7; B18 (Phase 2a), North Room and
Hall–Construction (1); Phase IVb; Rig VII
Not illustrated

147 (794) Needle Fe

Eye broken. Length 150+mm; width 4mm.
A8078e; L4021; X142; DX130; C2567–3; M1.4d, Pit 2566; Phase
IVb,IVc; Rig VI
Not illustrated

148 (886) Needle Fe

Eye broken. Length 39+mm; width 1mm.
A6363c; L2188; C2462A–3; M1.4c; Phase IIIa–IVcc; Rigs V
and VI
Not illustrated

149 (922) Needle Fe

Both ends broken. Length 37+mm; width 1mm.
A04–0511; L1241; C7233–7; P8.3; Phase IVc,IVcc; Rig VII
Not illustrated

150 (977) Needle Fe

Tip broken, distorted. Length 46+mm; width 1mm.
A04–0184; L4084; DX146, DX188; C9050–9; M9a; Phase
IVc,IVcc; Rig VII
Not illustrated

151 (979) Needle? Fe

Both ends broken. Length 74+mm; width 2mm.
A04–0315; L0539; C9050–9; M9a; Phase IVc,IVcc; Rig VII
Not illustrated

152 (1113) Needle Fe

Complete. Length 46mm; width 1mm.
A04–0465; L0653; C7186–7; P8.4; Phase Va; Rig VII
Illus 130

153 (1199) Needle Fe

Complete, distorted. Length 37mm; width 0.5mm.
A6569; L0872; C2404–3; M1.5a; Phase Va,Vaa(VI); Rigs V
and VI
Illus 130

154 (1248) Needle Fe

Head broken, distorted. Length 59+mm; width 2mm.
A04–0327; L0548; C7169–7; M1.5b; Phase Vaa; Rigs VI
and VII
Not illustrated

155 (1268) Needle Fe

Eye broken. Length 31+mm; width 1mm.
A04–0385; L0592; C7169–7; M1.5b; Phase Vaa; Rigs VI
and VII
Not illustrated

156 (1277) Needle Fe

Eye broken. Length 39+mm; width 1mm.
A04–0243; L3914; C7140–7; M8a; Phase Va,Vaa; Rig VII
Not illustrated

157 (1281) Needle Fe

Complete, eye broken at edge. Length 49mm; width 1mm.
A04–0244; L3911; C7159–7; M8a; Phase Va,Vaa; Rig VII
Not illustrated

158 (1285) Needle Fe

Tip and eye broken. Length 37+mm; diameter 1mm.

A04–0279; L4114; D085; C7159–7; M8a; Phase Va,Vaa; Rig VII
Not illustrated

159 Number not used.

160 (2027) Needle Fe

Head broken. Length 36+mm; diameter 1mm.

A?; L1483c; C?; Unstratified (South/North Sectors)
Not illustrated

Leatherworking tools (161–191)

Slickers were used during tanning, a blade with tangs at either end pointing upwards at right angles. They were used to scrape and shave leather and squeeze the dirt out of it (Ottaway and Rogers 2002, 2732).

The leatherworkers' knives were used for cutting and paring leather and are of a distinctive form. They have wide, but slender blades with distinctive square ends which are also sharpened to act as a cutting edge (Ottaway and Rogers 2002, 2730–2; Goodall 1993a, 189). In keeping with the rest of the knife assemblage (see Knives, Scissors and Shears above) all nine of the Perth leather knives are whittle tanged. Blade length varies from 113mm to 153mm; width averages 27mm and they can be as little as 1mm thick. The backs of the blades are often gently curving, the blade edge also tends to show a distinct wear pattern, with an S-curve, convex in the middle, concave towards the end. The square end in some cases is also worn into a concave curve.

There were also 21 awls, including two retaining their wooden handles. One of these handles (Cat No 190), being lathe turned with decorative grooves is better made than any of the surviving knife handles. Many of the awls are pointed at both ends, with one end functioning as a tang, but reversible, should the working end break (Ottaway and Rogers 2002, 2728). A swelling or flange towards the middle often separates tang from blade and prevents the tool being pushed through the handle. There is a wide variety of sizes, from 92mm to over 245mm long, from 2mm to 10mm wide. Lozenge-shaped sections are favoured for leatherworking awls, but some of the Perth tools are square or circular. Not all were necessarily specialist leatherworking tools; some may have been used for woodworking, bone working or other crafts.

There appears to be a concentration of awls and leatherworkers' knives in Rig V. This seems to be true throughout the period of occupation. As a percentage of the total number of objects from each rig, leatherworking tools were at least five times more common in Rig V than in any other in Periods II, IV and V (there were too few finds from Period I and III for reliable statistics). This suggests a degree of specialisation in leatherworking in this one property over at least two centuries.

Slicker**161 (1741) Slicker Fe**

Incomplete blade with base of tang at one end of back. Width 96+mm; height 45+mm; blade width 33mm.

A04–0029; L4819; X161; C7000–7–10; Unstratified; Rigs VI–VIII
Illus 131

Leatherworkers' knives**162 (138) Leatherworker's knife Fe**

Whittle tang knife, tang lost, pattern welded blade. Blade length 151mm; maximum blade width 27mm.

A10434; L1059; X115, NX11, NX18; DX095; C4470–3; M1.1c, Pit 5005; Phase IId; Rig VI
Illus 131

163 (150) Leatherworker's knife Fe

Whittle tang knife. Length 140+mm; blade length 113mm; maximum blade width 21mm.

A9495; L3933; C2625/6–3; B5, WW2625 and MC090, WW2626; Phase IIa–IIIf; Rig V
Illus 131

164 (491) Leatherworker's? knife Fe

Whittle tang knife. Gently curving back. Length 188mm; blade length 133mm; maximum blade width 26mm.

A04–0473; L0658; C9193–9; B18 (Phase 1b), Destruction; Phase IVa,IVaa; Rig VII
Illus 131

165 (597) Leatherworker's knife Fe

Tang lost. Very slender blade, gently curved back, slightly concave end. Length 117+mm; maximum blade width 22mm.

A04–0549; L1214B; C7284–7; P8.2b; Phase IVb; Rig VII
Illus 131

166 (896) Leatherworker's? knife Fe

Whittle tang knife, blade and tang broken. Slender blade. Length 94+mm; maximum blade width 25mm.

A6471; L2221; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Not illustrated

167 (1129) Leatherworker's knife Fe

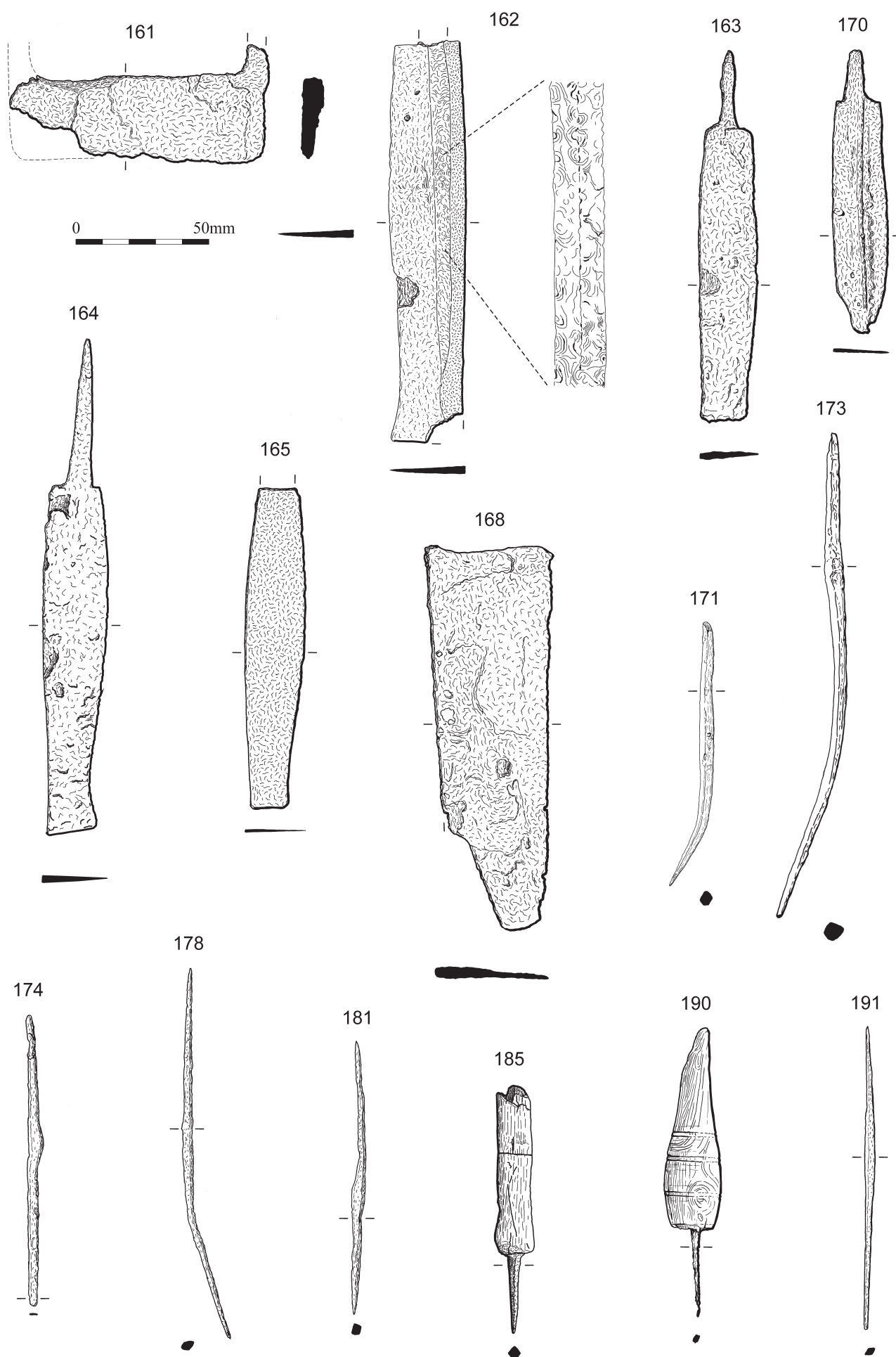
Whittle tang knife, tang broken. Shaped blade. Length 153mm; maximum blade width 32mm.

A6452; L1418; X077m; D180; C2774–2; B1(a), South Room-Occupation (1b); Phase IVcc,Va; Rig V
Not illustrated

168 (2014) Leatherworker's? knife Fe

Blade broken, tang lost. Slender but wide blade. Length 139+mm; maximum blade width 46mm.

A4481; L0095; X101m; DX086; C2770–2; MC173; Phase Vdd; Rig V
Illus 131



Illus 131 Fe. Slicker Cat No 161. Leatherworkers' knives Cat Nos 162–165, 168, 170. Awls Cat Nos 171, 173, 174, 178, 181, 185, 190, 191.

169 (1664) Leatherworker's? knife Fe

Whittle tang knife, blade broken. Length 115+mm; maximum blade width 25mm.

A04–0187a; L3973; X199m; DX147; C7014–7/9; Modern, T7014, D7014; Phase VI; Rig VII

Not illustrated

170 (1699) Leatherworker's? knife Fe

Whittle tang knife, blade and tang broken. Slender blade, shaped. Blade probably pattern welded. Length 107+mm; maximum blade width 19mm.

A9850; L4013; C2006–3/4; Unstratified; Rigs V and VI

Illus 131

Awls**171 (82) Awl Fe**

Large lozenge-sectioned awl, one point broken. Length 205+mm; width 10mm by 10mm.

A7617; L1435; C3694–1; M14a; Phase Id-IIc; Rig V

Illus 131

172 (139) Awl Fe

Broken lozenge-sectioned awl. Length 42+mm; width 2mm.

A12646; L0947; D168; C4687–4; MC081a; Phase IId; Rig V

Not illustrated

173 (156) Awl Fe

Tanged lozenge-sectioned awl, point broken. Expansion at base of tang, blade curves gently (?deliberately). Length 186+mm; maximum width 6mm.

A6994; L1458; C3604?–2; MC044b; Phase If; Rig VI

Illus 131

174 (357) Awl Fe

Tanged lozenge-sectioned awl, point broken. Expansion in centre, tang with flattened tip. Length 110mm; blade width 4mm by 4mm.

A8487a; L0935; X117m; DX098; C2581–3; M6b; Phase IIg-IIId;

Rig V

Illus 131

175 (420) Awl Fe

Tanged lozenge-sectioned awl, near complete. Tip of blade distorted, point lost. Tang flattens towards end. Slight waisting at end of tang. Length 117mm; width 9mm by 9mm.

A5515; L2253; X071m; DX060; C2201–4; MC152; Phase IVa,IVaa; Rig V

Not illustrated

176 (502) Awl Fe

Lozenge-sectioned awl, point broken. Length 92+mm; width 5mm by 4mm.

A5163; L0157; C2200–4; MC157; Phase IVaa; Rig V

Not illustrated

177 (640) Awl Fe

Lozenge-sectioned blade, broken both ends, distorted. Length 68+mm; width 3mm by 3mm.

A04–0338; L0559; C9165–9; B18 (Phase 2a), North Room and Hall-Construction (1); Phase IVb; Rig VII

Not illustrated

178 (746) Awl Fe

Complete lozenge-sectioned awl. Length 143mm; width 5mm by 3mm.

A5131; L0143; C2483–3; MC155; Phase IVb,IVc; Rig V

Illus 131

179 (821) Awl Fe

Large circular-sectioned awl, one tip broken. Length 245+mm; width 8mm.

A6589; L1461; C2802–2; M1.4g; Phase IVb,IVc; Rig V

Not illustrated

180 (850) Awl Fe

Lozenge-sectioned fragment, broken both ends. Length 62+mm; width 5mm by 5mm.

A5503; L2243; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI

Not illustrated

181 (857) Awl Fe

Lozenge-section, with expanded centre. Length 103mm; width 3mm by 2mm.

A5521; L2258; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI

Illus 131

182 (884) Awl Fe

Lozenge-sectioned, broken. Length 87+mm; width 8mm by 7mm.

A6363a; L2188; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI

Not illustrated

183 (984) Awl Fe

Pointed shaft, probably awl rather than heckle tooth. Length 94mm; maximum width 10mm.

A04–0192; L4126; X200m; DX148; C9060–9; M9a; Phase IVc,IVcc; Rig VII

Not illustrated

184 (1090) Awl Fe

Lozenge-sectioned, thickens to centre and tapers. Blade complete to point. Length 118+mm; width 5mm by 5mm.

A04–0408; L0610; C7185–7; P8.4; Phase Va; Rig VII

Not illustrated

185 (1102) Awl (with handle) Fe and wood

Straight handle of oval section, whittled from round wood (Wood Cat No 405). Charred and damaged. Square-sectioned spike widening to circular flange at handle. Overall length 92mm; handle length 63mm; handle cross section 13mm by 12mm to 15mm by 15mm; spike length 29mm; spike maximum cross section 3mm by 3mm; flange diameter 9mm.

A04–0422; C7185–7; P8.4; Phase Va; Rig VII

Illus 131

186 (1109) Awl Fe

Lozenge-sectioned, incomplete. Length 78+mm; width 6mm by 6mm.

A04–0461a; L0650; C7186–7; P8.4; Phase Va; Rig VII

Not illustrated

187 (1120) Awl Fe

Lozenge-sectioned, centre damaged, gently curves in side view, both ends pointed. Length 135mm; width 8mm by 8mm. A7838; L1439; X132m; DX113; C2548–3; B1(a), T2789; Phase IVcc,Va; Rig V
Not illustrated

188 (1127) Awl Fe

Broken. Lozenge-sectioned. Length 68+mm.
A6330b; L2164; C2425–3; B1(a), South Room-Floor (3d);
Phase IVcc,Va; Rig V
Not illustrated

189 (1417) Awl Fe

Square-sectioned, distorted. One tip broken. Length 157+mm; width 5mm by 4mm.
A04–0151; L4129; X195m; D067; C7072–7; B53 (Phase 2),
North Area-T7072; Phase Vbb; Rig VII
Not illustrated

190 (1419) Awl (with handle) Fe and wood

Awl with lozenge-shaped section embedded in wooden handle, tip distorted and broken. Handle lathe-turned with decorative grooves with tang embedded in enlarged socket (see this Fascicule, Wood Cat No 543). X-ray shows tang extending almost entire length of handle. Overall length 105mm; blade width 4mm by 3mm; handle width 75mm; maximum handle diameter 21mm.
A05–0036; X1.4m, NX8; C7072–7; B53 (Phase 2), North Area-T7072; Phase Vbb; Rig VII
Illus 131

191 (1551) Awl Fe

Lozenge-sectioned, tip of point broken. Length 116+mm; width 4mm by 3mm.
A9932c; L0968; X062m; DX053; C2177–4; M3a; Phase Vb-Vc;
Rigs V and VI
Illus 131

Woodworking tools (192–197)

The two hammers have been included in this section, though are by no means necessarily woodworking tools. Claw hammers (Cat No 193) are common from the 12th century onwards and were used by carpenters, farriers and many other types of craftsmen (Ottaway and Rogers 2002, 2718–9; Ford 1998, 717). The tang or nail pushed into the wooden handle through the eye of the hammer head was possibly used to strengthen the handle or as a repair to tighten a loose handle's fit within its socket (cf Goodall 1990, 276, fig.60:402).

The other hammer (Cat No 192) may have been used for carpentry, metalworking, stonemasonry or a number of other trades.

Other tools include three auger bits, tools used to bore holes in wood, whose history goes back as far as Roman times (Goodman 1964, 165–72). Other

examples have been found in Perth (Ford 1987, 134). The rasp takes the form of a thick bar with a plano-convex section, with teeth along the flatter face. A common woodworking tool which is missing from this assemblage is the axe. However, such a large piece of iron would have had a high scrap value and thus less likely to be discarded.

Hammers**192 (14) Hammerhead Fe and wood**

Hammer with one butt and one narrower 'blade' end. Broken socket with traces of wood (see this Fascicule, The Wood Cat No 4). Length 145mm.
A11072; L4250; X028m,X032m,X100m, NX5; C4538–4;
MC017; Phase Ia–Icc>; Rigs V and VI
Illus 132

193 (478) Hammerhead Fe and wood

Claw hammer. Iron hammerhead with socket for wooden handle, handle broken (see this Fascicule, Wood Cat 238). Butt end has angled corners, two claws. Tapering round-sectioned iron tang within wooden handle. Length 112mm.
A04–0617; C7334–7; B18 (Phase 1b); North Room-Occupation (5b); Phase IVa,IVaa; Rig VII
Illus 132

Augur bits**194 (1228) Auger bit or chisel Fe**

Blade damaged, stem broken. Blade broadens, thins, perhaps shaping towards blade of auger.
A04–0298; L4071; X211m, NX6; DX159; C7082–7; M1.5b;
Phase Vaa; Rigs VI and VII
Not illustrated

195 (2015) Auger bit Fe

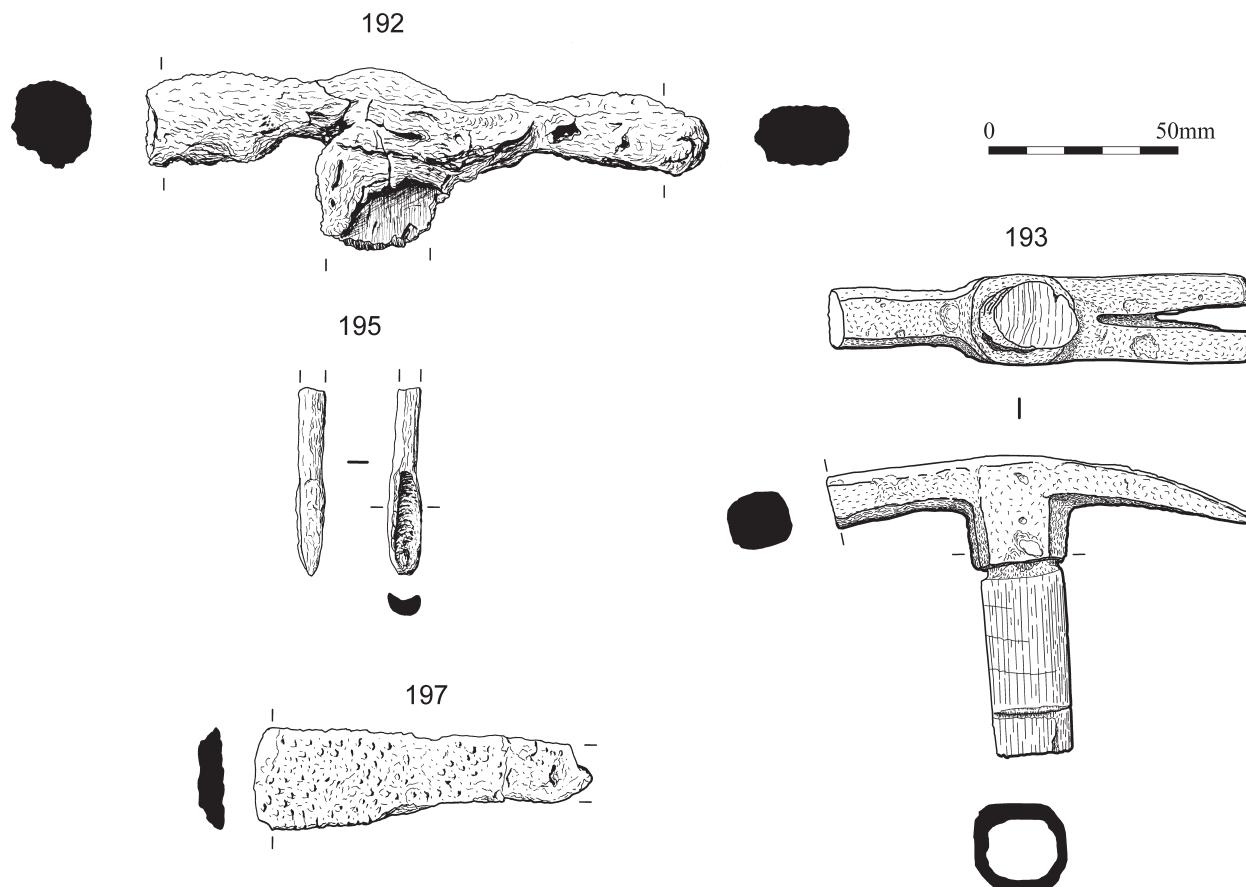
Spoon bit blade and broken stem. Length 49+mm; diameter 8mm.
A7077; L1428; X151; DX132; C0309–5; Town Wall, MF0366;
Phase 6–12(b) (North Sector)
Illus 132

196 (2016) Auger Bit Fe

Terminal and broken shank. Length 50+mm; width 10mm.
A7294; L1444; C0400–5; Well 0400, Construction (and Fill);
Phase 4–11 (North Sector)
Not illustrated

Rasp**197 (1714) Rasp Fe**

Flat-toothed face, curved back, tapering sides, broken. Length 89+mm; width 26mm; depth 7mm.
A1943; L0188; X126m; DX107; C2003–7/10; Unstratified,
Sondage 2003; Rigs VII and VIII
Illus 132



Illus 132 Fe. Hammers Cat Nos 192, 193. Auger bit Cat No 195. Rasp Cat No 197.

Ironworking tools and forgings (198–210)

Research into the iron industry in Perth has shown that the burgh not only supported smithing, but also had its own bloomeries within the town (Photos-Jones and Atkinson 1998). The only evidence of the iron industry among the ironwork

is a pair of tongs and a punch, with some part-forged objects. The punch and tongs are both relatively large and thus most likely used in blacksmithing rather than for non-ferrous metals, though the tongs may also have had domestic uses in the kitchen (Cox 2000, 132–5). The only recognisable part-forged objects were a knife (Cat No 208) and a padlock key (Cat No 210).

Tongs

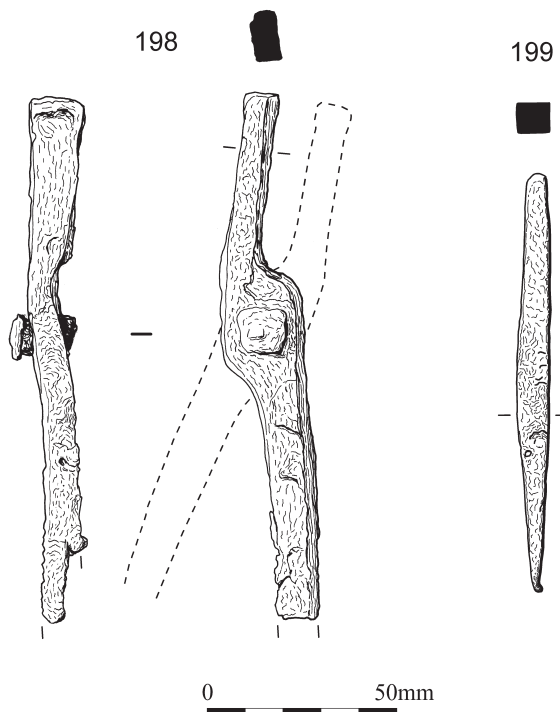
198 (475) Tongs Fe

Broken arm with straight flat jaw. Chamfered edge on outer side. Remains of pivot still in hole. Length 138mm
A04–0496; L1251; X223m; DX170; C9331–9; B18 (Phase 1b), North Room-Floor; Phase IVa, IVaa; Rig VII
Illus 133

Punch

199 (760) Punch Fe

Rectangular-sectioned. Distorted tip. Length 111mm.
A9505e?; L0984; X085; D113, D114, D115, DX074; C2530–3; MC155, Pit 2691; Phase IVb, IVc; Rig V
Illus 133



Illus 133 Fe. Tongs Cat No 198. Punch Cat No 199.

Bar iron and part-forged objects

200 (50) Incomplete forging of bar iron Fe

Broken length of strap with two holes, irregular shaped edge, variations in thickness visible in x-ray. Length 97mm; width 31–34mm; thickness 203mm.

A8068; L0927; X143m; DX124; C3653–2; M14b(a); Phase Id; Rig V

Not illustrated

201 (272) Incomplete forging of bar iron Fe

Broken bar with irregular octagonal section. Length 66+mm; width 10mm by 10mm.

A8842; L1468; X143m; DX124; C2462C-3; M1.3; Phase III; Rig VI

Not illustrated

202 (323) Incomplete forging of bar iron Fe

Broken tapering bar. Length 74+mm; width 22mm by 9mm-15mm by 8mm.

A04–0531; L1224; X219m; DX166; C9413–9; B19 (Phase 2b), North Room-Occupation (3); Phase IIIc; Rig VII

Not illustrated

203 (393) Incomplete forging of bar iron Fe

Both ends broken, irregular sides. Length 232+mm; width 5–3mm.

A8067; L0938; X127m; C2203–4; MC143; Phase IVaa; Rig V

Not illustrated

204 (490) Incomplete forging of bar iron Fe

Broken tapering strap. Length 238mm; width 44–52mm, thickness 1–5mm.

A04–0472; L0657; C9193–9; B18 (Phase 1b), Destruction; Phase IVa,IVaa; Rig VII

Not illustrated

205 (613) Incomplete forging of bar iron Fe

Tapering towards both ends, slightly flattened off centre. Length 280mm; width 10mm.

A04–0581; L0879; X226; DX173; C7308–7; B18 (Phase 2a and 2b), WW7308; Phase IVb; Rig VII

Not illustrated

206 (902) Incomplete forging of bar iron Fe

Irregular shaped piece of bar iron, thick at one end, narrowing towards other. Length 354mm; width 24–69mm, thickness 25–7mm.

A7205; L4211; X041, X108; C2462A–3; M1.4c; Phase IIIa–IVcc; Rigs V and VI

Not illustrated

207 (1025) Incomplete forging of bar iron Fe

Bar, one end drawn down to narrow section. Length 113+mm; width 9mm by 4mm.

A6360; L2187; X125m; C2447–3; M1.4e; Phase IVcc(Va); Rig VI

Not illustrated

208 (1413) Part-forged object Fe

Part-forged knife or auger bit. Flat section, narrowing to ?tang at one end, ?blade at other. Length 60mm.

A04–0087; L4221; X182, X187m; D135; C7064–7; P8.5; Phase Vb,Vbb; Rig VII

Not illustrated

209 (1560) Incomplete forging of bar iron Fe

Bar fragment, flattened at one end. Length 99mm.

A13000; L0170; X137; C2179–4; M3a; Phase Vb–Vc; Rigs V and VI

Not illustrated

210 (1848) Part-forged object Fe

Part-forged padlock key? Stem with hooked and expanded terminal at one end. Length 77mm.

A10728f; L0963; C0206–5; Garden 2; Phase 17 (North Sector)

Not illustrated

Agricultural tools (211–19)

The agricultural tools include sickles (Cat Nos 216–218), weedhooks with short concave blades for weeding (Cat Nos 213–215) and a spade iron (Cat No 211) to fit over the end of a wooden shovel to provide a strong cutting edge. The forms of these tools have remained unchanged for centuries (cf Goodall 1993a, 193–5; Samson 1982, 469; Goodall 1983, 242–3). It is their distribution which is interesting as it does not follow the pattern of the other tools and fittings. Chronologically, though never numerous, they are more common in earlier deposits as a proportion of the total ironwork from each period. It would seem that, as might be expected, as the town grew, agriculture was practised less compared to industries such as blacksmithing, wool processing and leatherworking. Spatially these early tools are very much concentrated in Rig V. Whilst cereal growing was a rural activity, it might be imagined that horticulture, the production of vegetables and herbs, was being practised in most urban backland gardens, thus a more even spread of tools might be expected.

The clapper (Cat No 219) is from a large bell, probably worn by a cow. A smaller but more complete example was found at Castle Park, Dunbar (Cox 2000, illus 97:169). This does not follow the distribution of agricultural tools, being found in a later context in Rig VI.

Spade iron

211 (422) Spade iron Fe

Deep triangular blade with round mouth grooved throughout. Top of one side damaged. Length 224mm; width 164mm.

A4752; L4256; X064m, X107m; C2820–2; B26–Floor/ Occupation (8a); Phase IIg-IVaa; Rig V

Illus 134

Rake prong**212 (1552) Rake prong Fe**

Tapering square-sectioned blade with burred tip, broken curving tang. Length 122+mm.

A3568; L0206; X130m; DX111; C2178–4; M3a; Phase Vb-Vc;

Rigs V and VI

Illus 134

Weedhooks**213 (183) Weedhook Fe**

Curved blade, tang with clenched tip. Length 82mm.

A9852a; L1462, L3938; X102m, X106m; D119, DX090; C2333–4;

M10; Phase IId-IIg; Rig V

Illus 134

214 (369) Weedhook Fe

Curving blade broken, tang with clenched tip. Length 63mm; width 14mm.

A6356; L2183; X129; DX110; C2841–2; P2.2a; Phase IVa; Rig V

Not illustrated

215 (1724) Weedhook Fe

Tang and blade broken. Length 95+mm; blade width 17mm.

A04–0012; L4261; X161m; C7000–7–10; Unstratified; Rigs

VI–VIII

Not illustrated

Sickles and scythe**216 (6) Sickle Fe**

Blade tip, shallow groove along wider end of blade towards outer edge, tip narrows to near point. Length 165+mm; maximum blade width 29mm; thickness 2mm.

A10882; L1022; C3850–1; B17(West), PH3850; Phase Ib; Rig V

Illus 134

217 (170) Sickle Fe

Blade tip. In profile, blade thickens towards tip. Length 165+mm; maximum blade width 28mm.

A11207; L2291; X083; D109, DX072; C2309–4; M10; Phase

IId-IIg; Rig V

Illus 134

218 (171) Scythe Fe

Fragment of scythe blade, broken both ends, wide shallow groove along blade towards outer edge. Length 142mm; blade width 30–42mm.

A9048; L4018; X088m; DX077; C2310–4; M10; Phase IId-IIg;

Rig V

Illus 134

Bell clapper**219 (775) Bell clapper Fe**

Long rod, tapering towards top, suspension loop broken. Length 103mm.

A5711b; L4249; X089m; D062, DX078; C2476–3; M1.4d; Phase

IVb,IVc; Rig VI

Illus 134

Fishing (220–4)

The proximity of the River Tay to the site means that inevitably the diet of the local population would be supplemented by fish. The range in size is remarkable from Cat No 223, 25mm long, to Cat No 220, 121mm. All but the largest have heads made by flattening the end of the shaft. The very large Cat No 220 has an eye, no doubt to give greater strength to the line attachment. The fish hooks were all concentrated in Rig VI, though covering a wide range of dates.

Fish hooks**220 (119) Fish hook Fe**

Complete large hook with looped shank and barbed point.

Length 121mm; width 38mm; diameter 5mm.

A04–0676; L2136; X233m; C6507–1; MC065; Phase IIa–IIc; Rig VI

Illus 135

221 (217) Fish hook Fe

Complete; shaft with flat head, point distorted but unbarbed.

Length 32mm; width 11mm; diameter 1mm.

A9101c; L4038; X106; DX090; C2611–3; M1.2, Pit 2648; Phase <IIg(IIh); Rig VI

Illus 135

222 (397) Fish hook Fe

Broken flat head to shaft, barbed point. Length 45+mm; width 18mm; diameter 1.8mm.

A8064; L0934; NX10; C2513–3; MC144, WW2221; Phase

<IIId-IVa; Rig V/VI

Illus 135

223 (587) Fish hook Fe

Complete, shaft with flat head, barbed point. Length 25mm; width 12mm; diameter 1.5mm.

A04–0631; L1486; C7326–7; M1.4f; Phase IVc; Rig VI

Illus 135

224 (1689) Fish hook Fe

Complete, shaft with flat head and barbed point. Length 54mm; width 18mm; diameter 1.5mm.

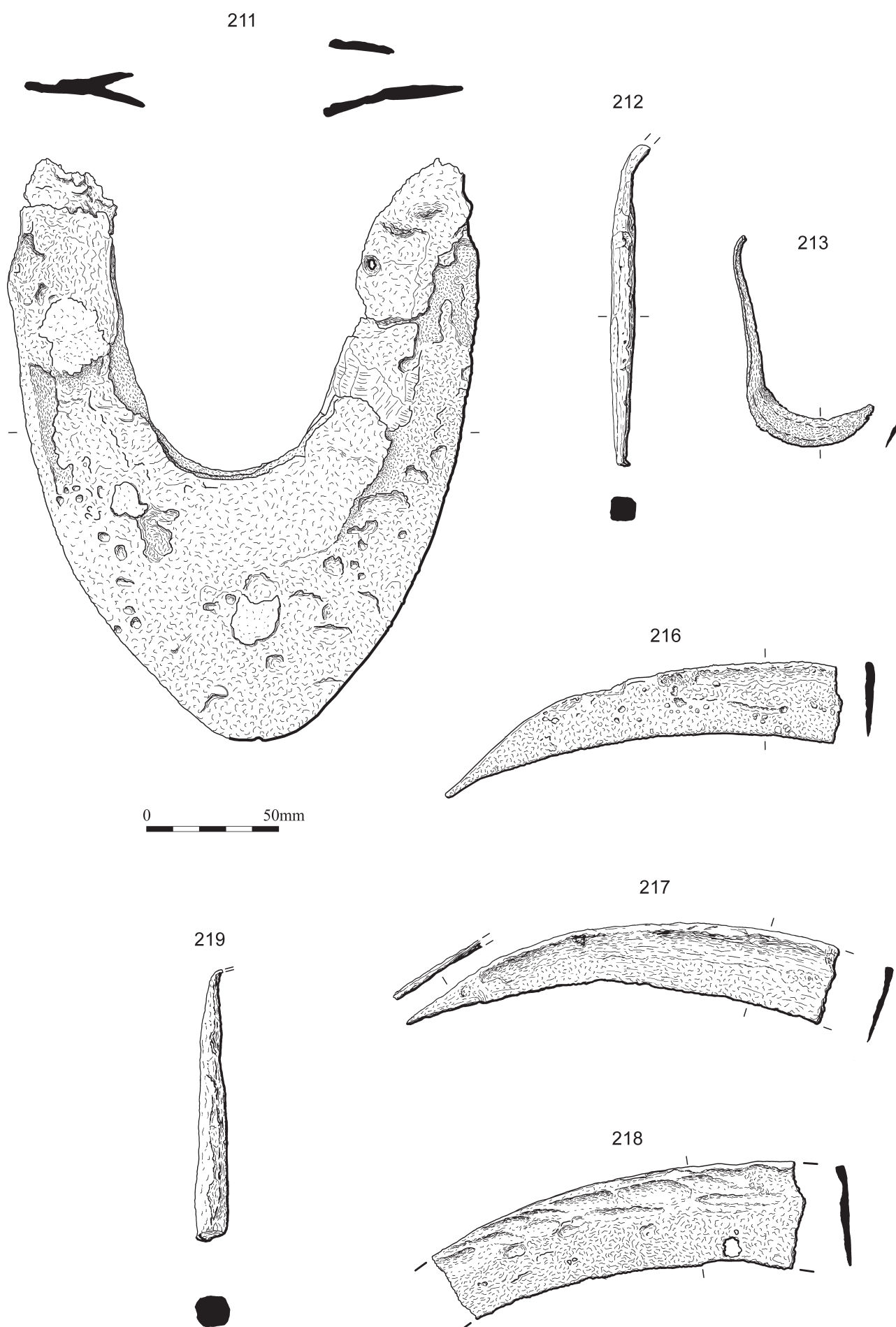
A7117; L3899; X081; D003, DX071; C2001–3/4; Unstratified;

Rigs V and VI

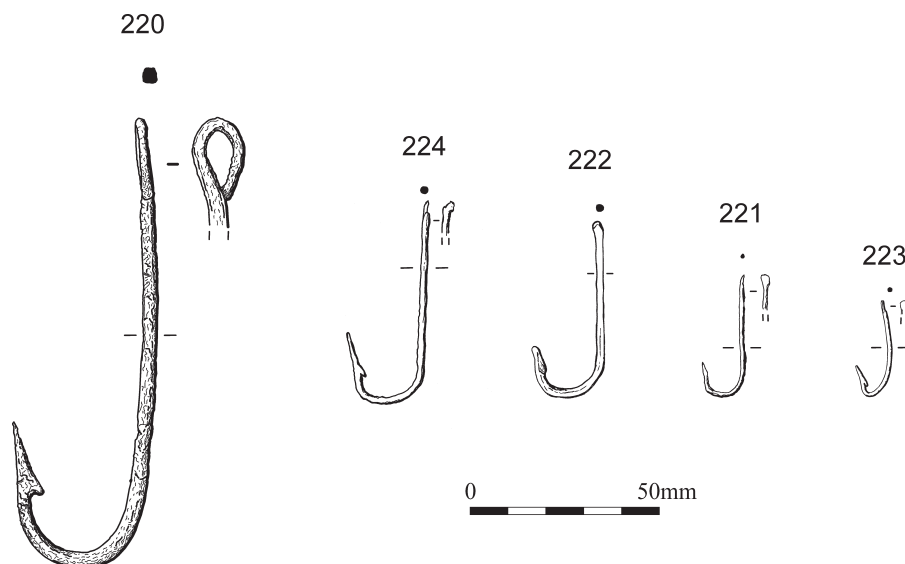
Illus 135

Locks and keys

This assemblage represents the largest collection of its kind from medieval Scotland and a valuable benchmark for assessing security considerations and equipment in the early medieval period. The development of locks and keys goes hand in hand with the rise of towns, with larger and more anonymous populations and with an increase in the numbers of wealthy burgesses with both material wealth and documents to protect.



Illus 134 Fe. Spade iron Cat No 211. Rake prong Cat No 212. Weedhook Cat No 213. Sickle blades Cat Nos 216, 217. Scythe blade Cat No 218. Bell Clapper Cat No 219.



Illus 135 Fe. Fish hooks Cat Nos 220–224.

Padlocks (225–66)

Barrel padlocks, opened with a slide key, were in use in the late 1st millennium AD, and despite being largely superseded by the modern form of case padlock with rotary key in the post-medieval period, can be found in use surprisingly late (Hume 1976, 249). Their heyday, however, was the medieval period. At Coppergate, York, for example, three fragments from Anglo-Scandinavian contexts (Ottaway 1992, 665), compare to 37 from post-Conquest medieval layers (Ottaway and Rogers 2002, 2861). The padlocks have been classified according to Goodall's typology of the padlocks found in Winchester (Goodall 1990, 1001–3, Types A–D).

At Perth there were 42 barrel padlocks represented in the assemblage. Though some were too fragmentary to categorise, several cases and bolts were complete and in two examples (Cat Nos 225, 229) the complete bolt was still in place in the case.

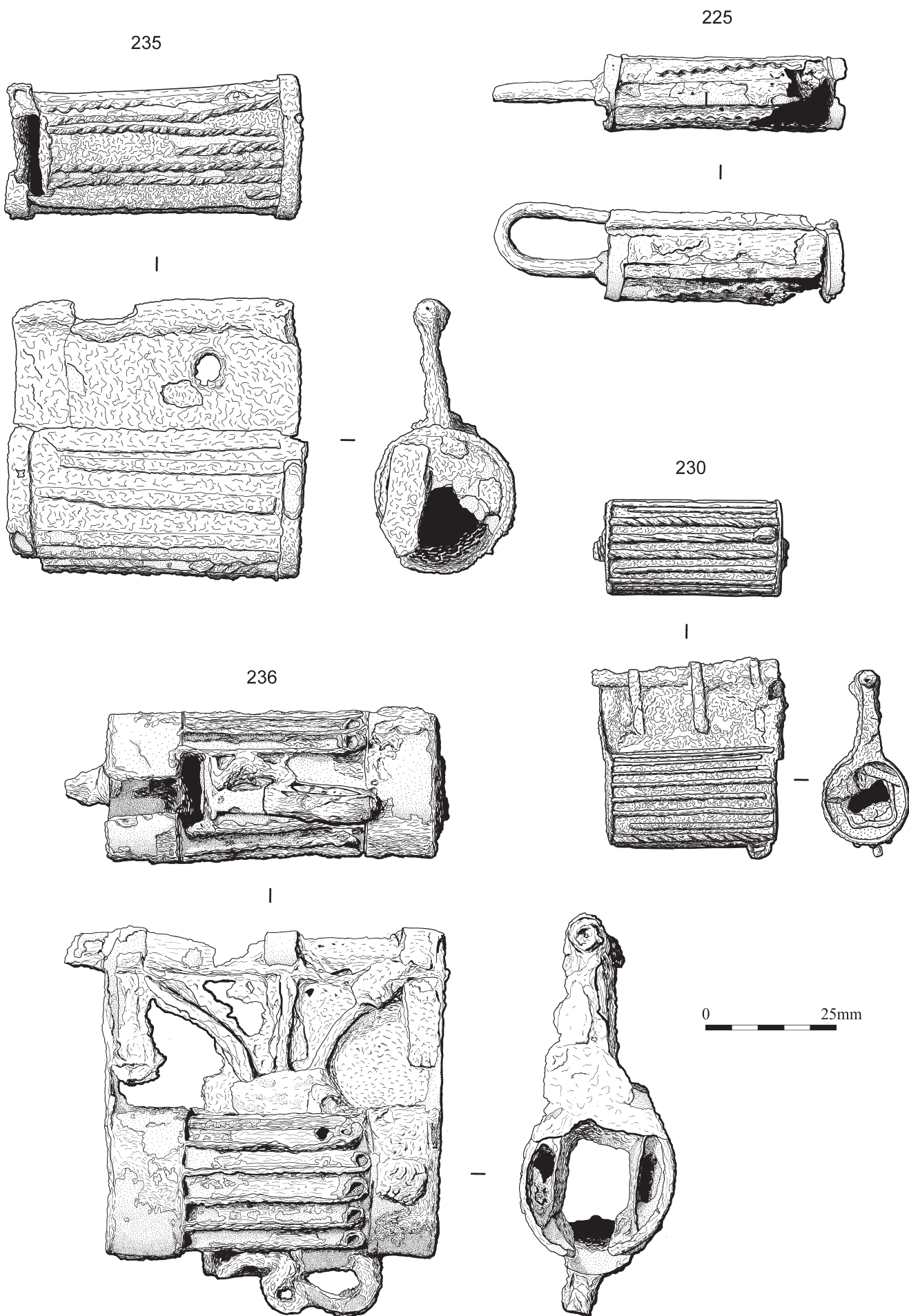
In the earliest of the Perth padlocks (Cat No 225), from an early 12th-century context, the tube to take the free arm of the bolt is fixed directly to the barrel of the case. This is an exclusively early type of lock (Goodall Type A), found in Winchester in pre-Conquest to 12th-century contexts. In York too they are known from 12th-century contexts (Ottaway and Rogers 2002, 2863).

The most common type of barrel padlock, found throughout the medieval period has the tube attached to the barrel by a flat rectangular or trapezoidal fin, sometimes pierced for suspension (Goodall Type B). This would have the effect of increasing the width of the bolt loop, making the lock more versatile. This type of padlock makes up the majority of the Perth assemblage, with 15 examples (Cat Nos 226–240). There is much variety, in terms of size and style. Cases range in length from 35mm to 73mm (Cat Nos 230,

238). Many cases are strengthened by rods or straps along the body of the case; in some examples these are decoratively shaped into waves and curls (for example Cat Nos 236 and 238) with additional decorative scroll-work seen on the bolts (Cat No 248). There is also much variation in the shape of the bolt holes and keyholes, with bolt holes shaped to take two-, three- and four-spined bolts. These correspond to the spare bolts found (Cat Nos 245–254), with two, three or four spines, each one with two springs attached, each aligned either across or around the barrel.

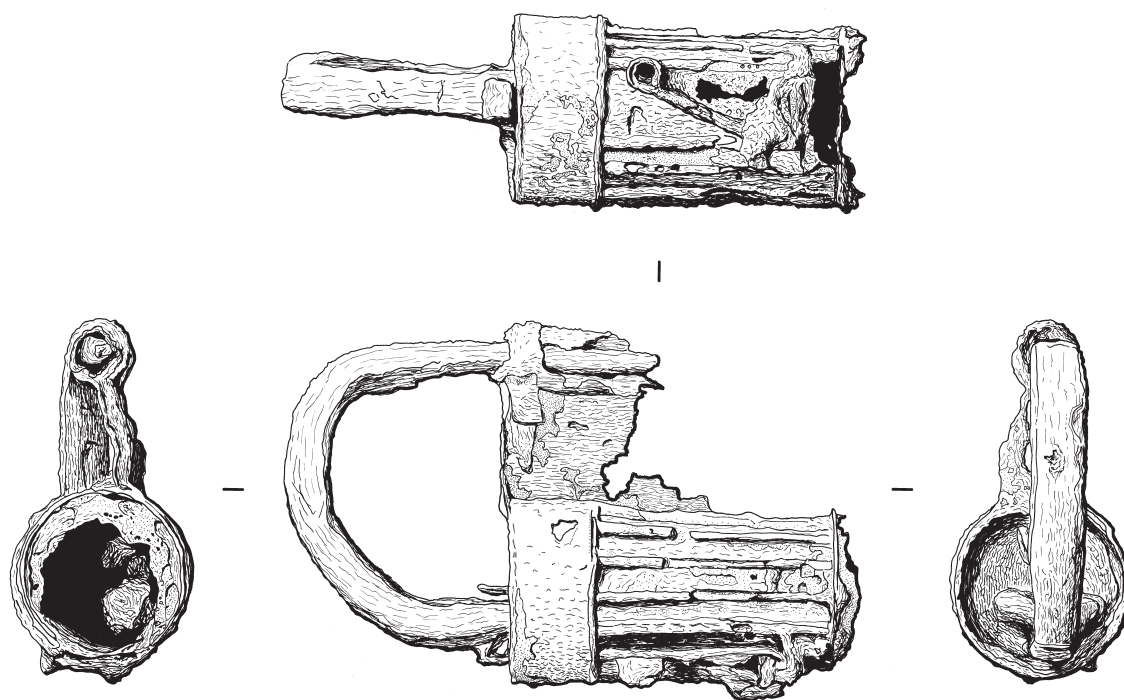
Key holes are usually in the form of a T-shape, along the join between the end of the case and the end-plate (for example Cat No 236) (see Ottaway and Rogers 2002, 2866 for a diagram of this type of keyhole in operation). These would have fitted a slide key with a bit angled to the stems (Goodall Type A key). More occasionally (three examples, Cat Nos 229, 230 and 237) the hole is only in the end-plate. Though simpler to make, these would have been easier to pick. This type of keyhole would have fitted a key with a centrally placed bit (Goodall Type B key, though Type A keys would also have worked). There appears to be no chronological distinction in this assemblage between these two types of keyhole.

However, another type of keyhole is exclusively early. There is only one example (Cat No 226) of a T-shaped keyhole along the barrel. These were used with keys with bits aligned with the shaft (Goodall Type C key), several of which were found (see Padlock Keys below). Neither lock nor key are found in Perth any later than the 12th century. This type of keyhole often seems under-represented on sites, when compared to their keys. At Coppergate, York for example, 16 keys were found but no padlocks (Ottaway and Rogers 2002, 2876). Possibly the long slit made the case weaker and more liable to fragment. This may be why they fell out of use in favour of end keyholes.



Illus 136 Fe. Barrel padlocks Cat Nos 225, 230, 235, 236.

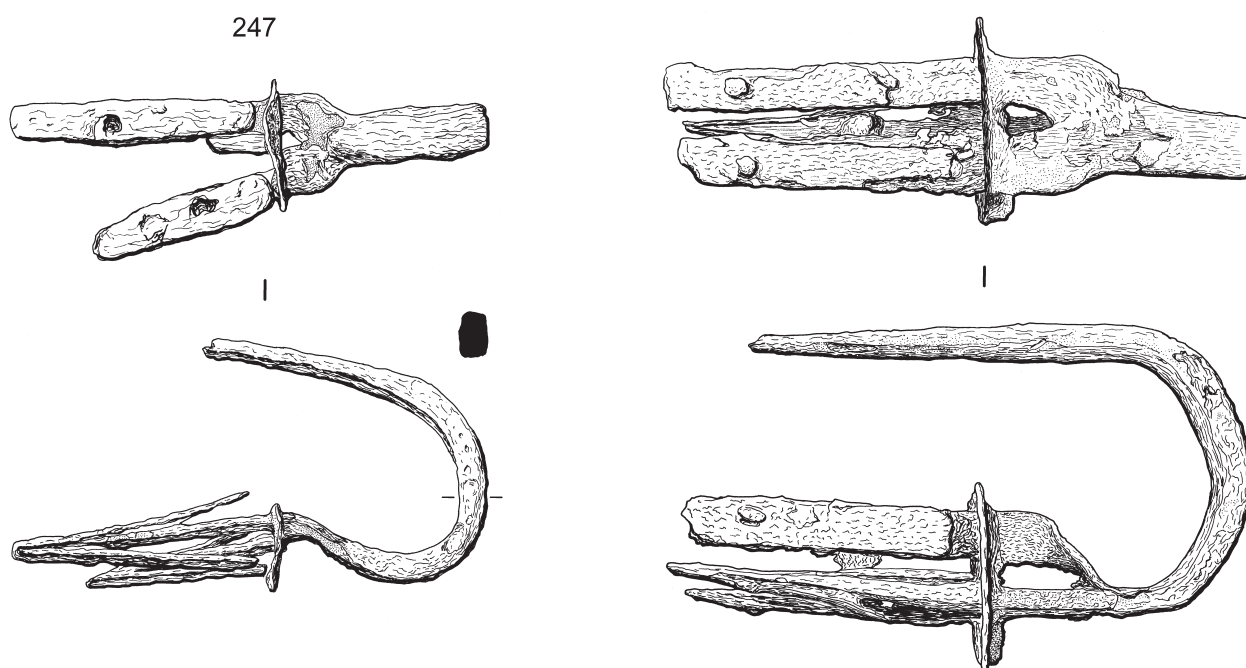
240



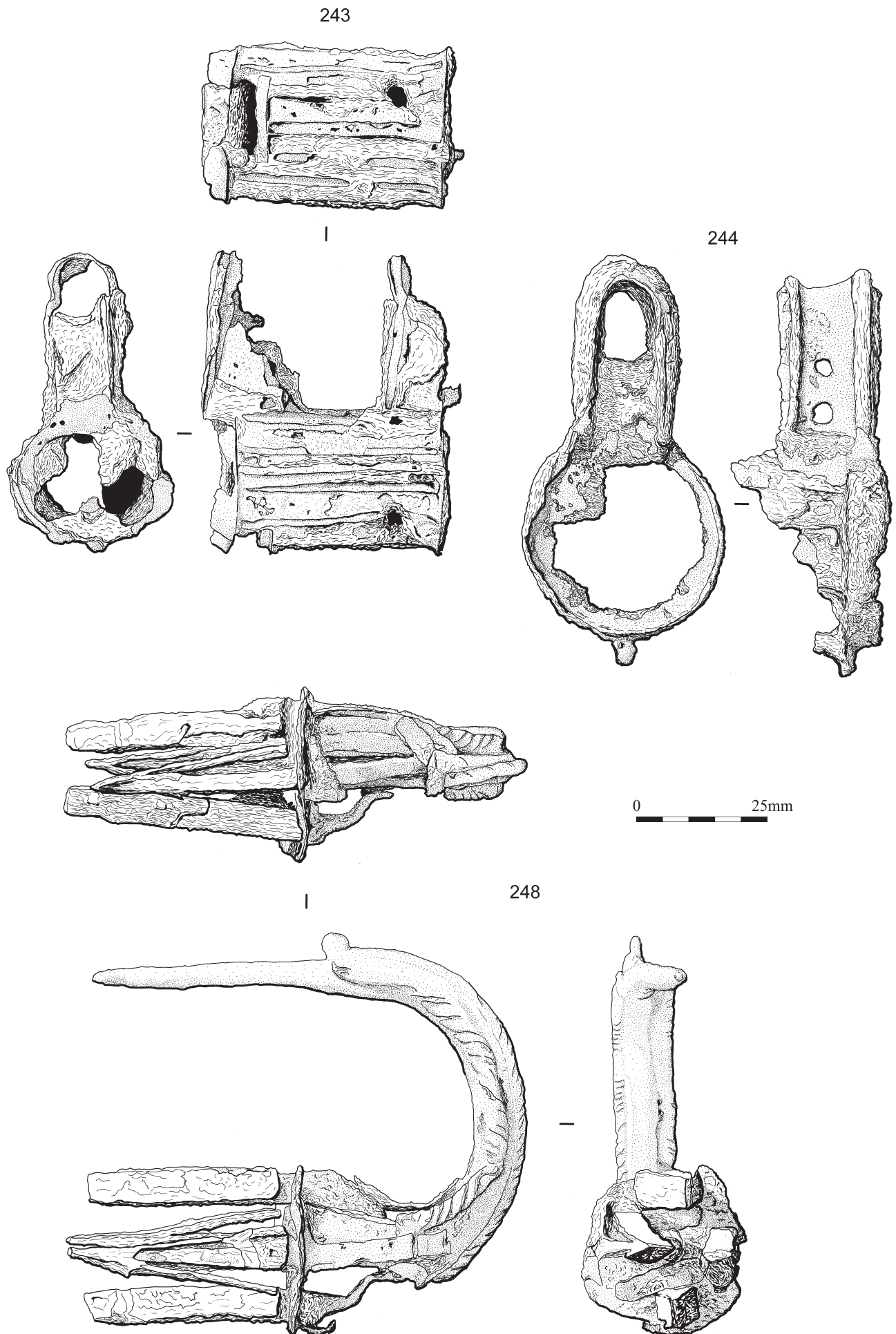
0 25mm

249

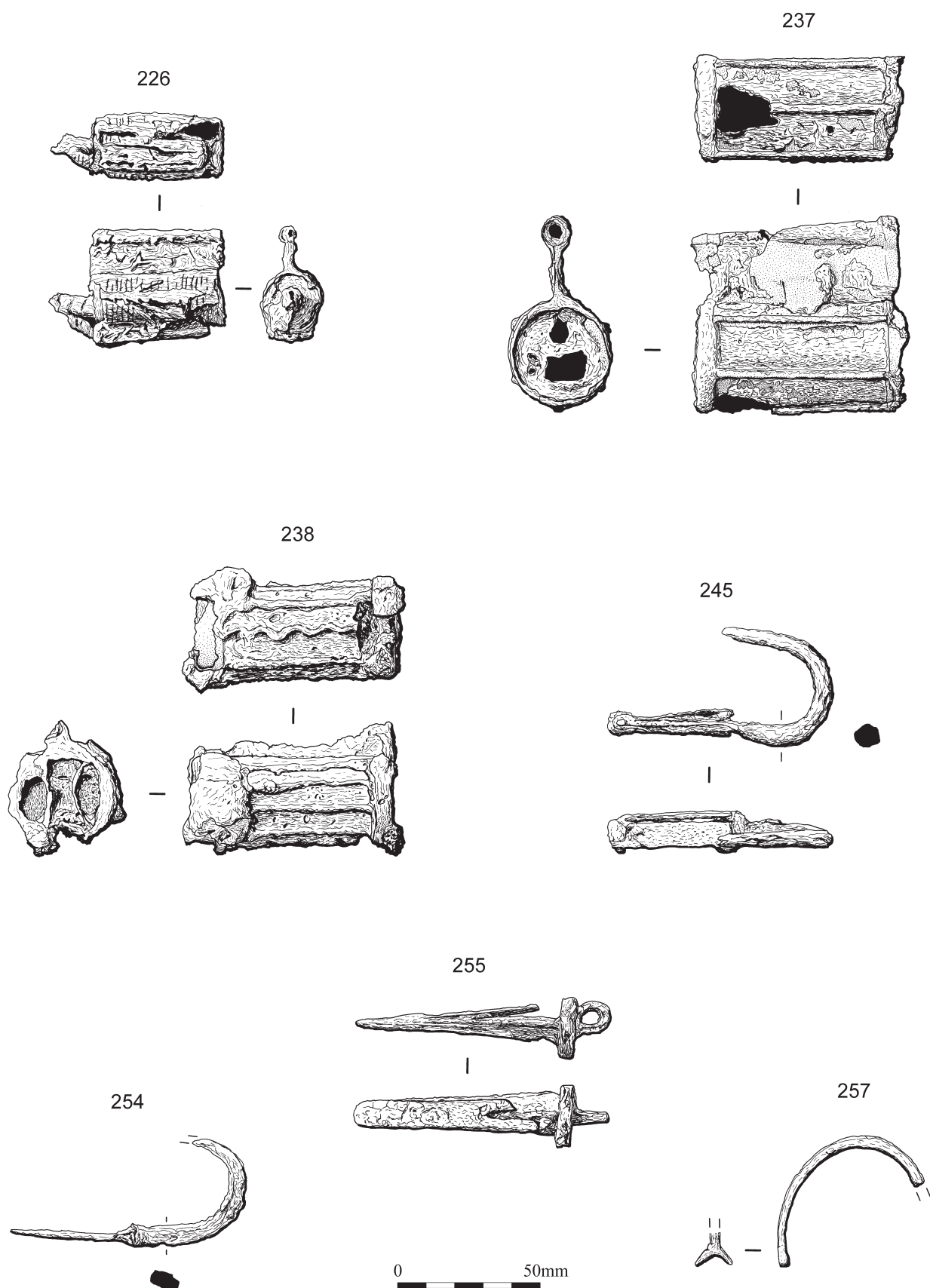
247



Illus 137 Fe. Barrel padlock Cat No 240. Barrel padlock bolts Cat Nos 247, 249.



Illus 138 Fe. Barrel padlock Cat No 243, 244. Barrel padlock bolt Cat No 248.



Illus 139 Fe. Barrel padlocks Cat Nos 226, 237, 238. Barrel padlock bolts Cat Nos 245, 254, 255. Barrel padlock shackle Cat No 257.

A later variant of this type of fin and tube padlock sees the tube encased in a U-shaped housing, attaching it to the barrel and giving it an overall keyhole-shaped section (Cat Nos 241–244). The four examples found all date to the early 14th century. This compares well with the evidence from London, where a similar example was found in a context dated c1270–c1350 (Egan 1998, 97). Another example (Cat No 260), also of early 14th-century date, appears to be along similar lines. The interior of this lock is not entirely clear, but it appears to have the barrel encased in a rectangular box, with the tube attached to the outside.

Another type of padlock is of distinctly different form and designed for a specific function, to shackle either people or animals (Goodall Type D, see Goodall 1990, 1004, for a diagram of the mechanism). Unlike other forms of padlock, the loop is attached to the barrel not the bolt. It is hinged from one end of the barrel and fits into a slot at the other end where it is held by a sprung bolt. There are four pieces of such padlocks from Perth (Cat Nos 255–258), a bolt, two pieces of shackles and a case fragment. These were in use over the whole of the medieval period and beyond (Goodall 1990, 1001).

Curiously lacking in Perth are padlocks with L-shaped bolts (Goodall Type C); only one example was found (Cat No 259). In this case the barrel is attached to the free arm in parallel and the L-shaped bolt holds a loop through which the free arm passes when the bolt is inserted into the barrel (see Egan 1998, 92, for a diagram of the mechanism). These are found throughout the medieval period and are generally small, for use with caskets rather than doors or windows (Goodall 1990, 1010; Ottaway and Rogers 2002, 2866; Egan 1998, 92–6). There is only one fragment which might belong to one of these (Cat No 259). This is a heavily corroded L-shaped fragment, apparently of a free arm attached to the stump of the bolt.

There were only three copper alloy padlocks (Cat Nos 233, 239, 253), all apparently of Goodall Type B padlocks. Copper alloy tends to be used for the smaller padlocks for caskets and chests (Egan 1998, 92). This does not seem to be the case here.

Padlock slide keys (267–314, Table 8)

The padlock keys were also classified according to Goodall's Winchester typology (Goodall 1990, 1005–8). Keys are classed according to the position of the bit in relation to the stem:

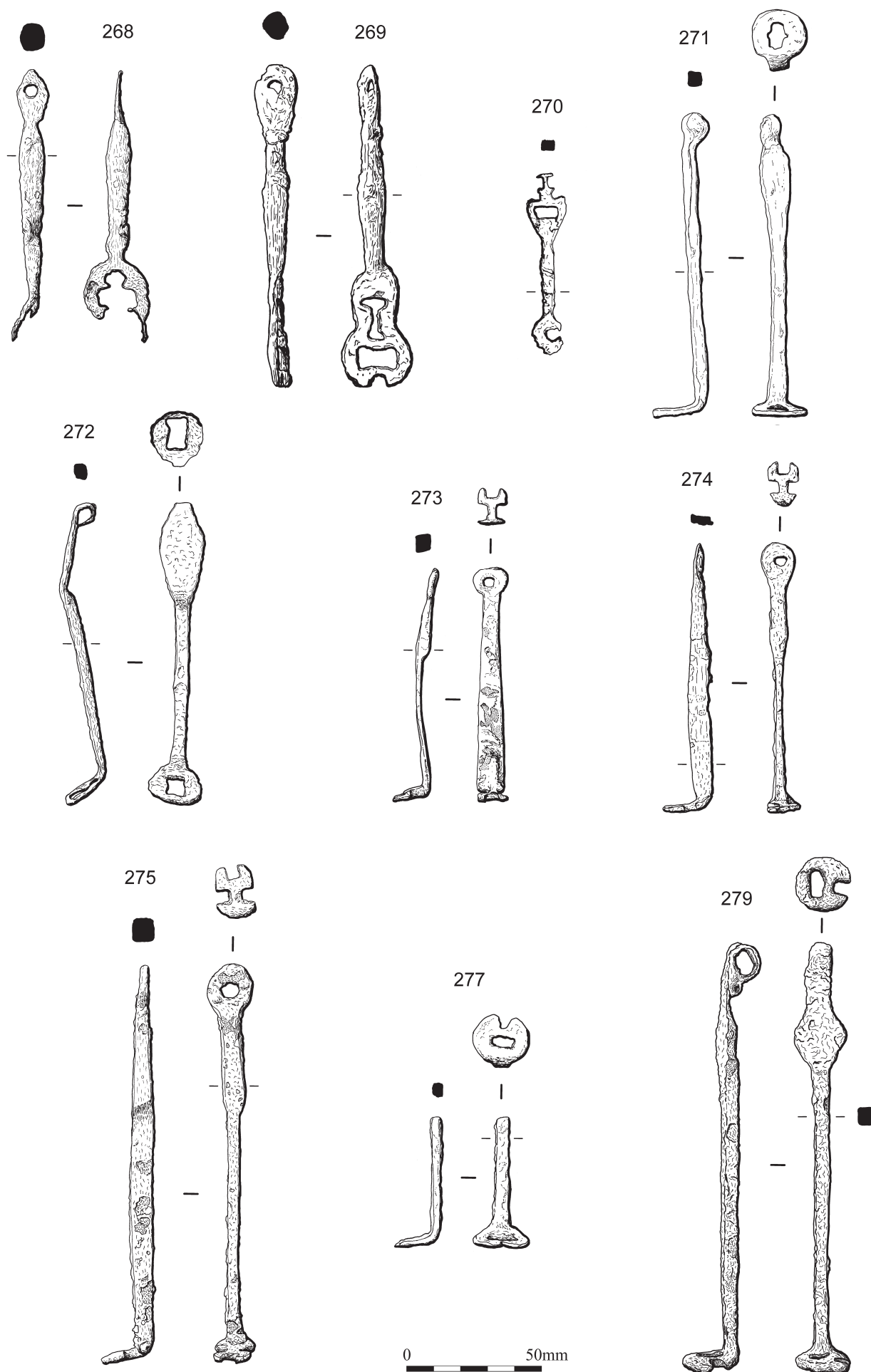
Type C keys (Cat Nos 296–306) have the bit set in line with the stem. They are an early type and are thus discussed first. They are known from pre-Conquest contexts in England, but fell out of use some time in the 13th century. They were used with early box padlocks though these are not found after the 11th century (Goodall 1990, 1001; Ottaway 1992, 677–8) and none were found in the Perth assemblage. They were also used with barrel padlocks with long slit keyholes along

the barrel (see diagram in Ottaway and Rogers 2002, 2868, fig 1444 or Ottaway 1992, fig 285). Only one example of this type of padlock was identified at Perth (Cat No 226). In Perth the use of both keys and corresponding padlocks seems to be in decline in the 12th century and none are found later than the later 12th century. The keys all have loop terminals, and elaborate bits for two or three spined springs. Cat No 267 is particularly fine with copper decoration. Similar keys with just this decoration have been found before both in Perth, at King Edward Street (Ford 1995, illus 21:198, from a late 12th-century building) and much further afield. Several such came from the Norman site of Castle Acre, Norfolk, all from 12th-century contexts (Goodall 1982, fig 40:84–89).

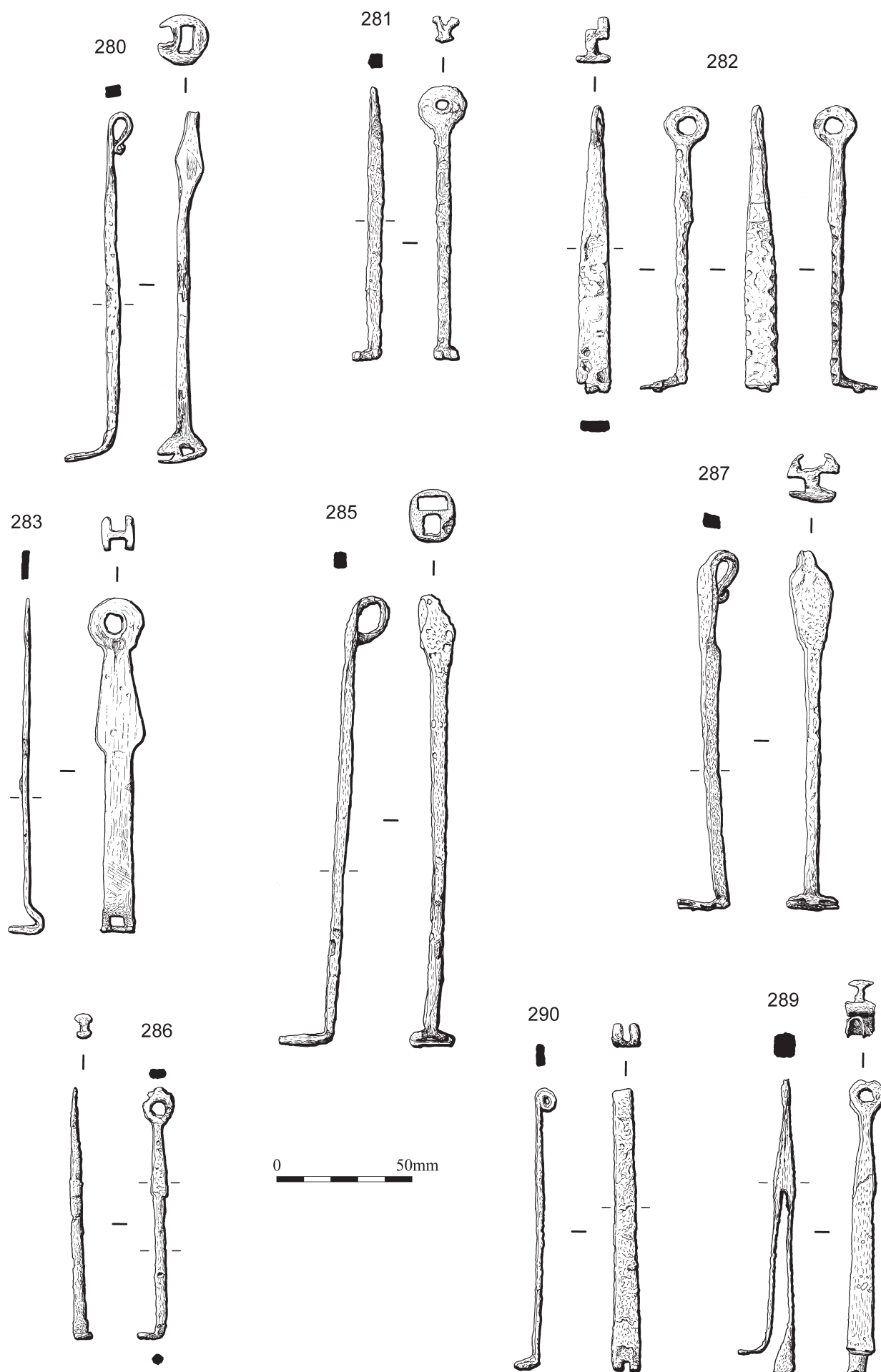
Type A keys (Cat Nos 267–270) have a bit set laterally to the stem. They are the most common type found in Perth and in medieval Britain at large. They are long-lived, occurring from pre-Conquest contexts to the post-medieval period (Goodall 1990, 1006; Ottaway and Rogers 2002, 2876). They would have opened most types of padlocks and would have fitted well into a T-shaped keyhole made in the end-plate and underside of the barrel as is seen on most of the Perth padlocks (see diagram in Ottaway and Rogers 2002, 2866–7, fig 1443 or Goodall 1990, 1004, fig 310). It is the most common type of key found from the late 12th century onwards at Perth. The lack of earlier examples is probably due to the relatively small size of the early 12th century assemblage, as just such a key would have been needed to open the early 12th-century padlock (Cat No 225). The terminals for these keys are either looped or hooked. The hooked types often have expanded stems and decorative scrolls at the end of the hook. There seems to be no chronological distinction between the two types. The shapes of the bits are variable from the very simple to the very complex.

Type B keys (Cat Nos 271–295) have a bit set centrally to the stem and are less common. In Britain in general, these seem to be concentrated in the 12th and 13th centuries (Goodall 1990, 1006; Ottaway and Rogers 2002, 2877). Only one example was found at Winchester and four in York. They appear to be proportionally more common in Perth and continue in use later, still being common in 14th-century contexts. They would have needed a padlock with a large keyhole in the end-plate, of which three were found at Perth (Cat Nos 229, 230, 237). All the Type B keys from Perth have looped terminals, never hooked. The shapes of the bits are less varied, limited as they are by the central join with the stem.

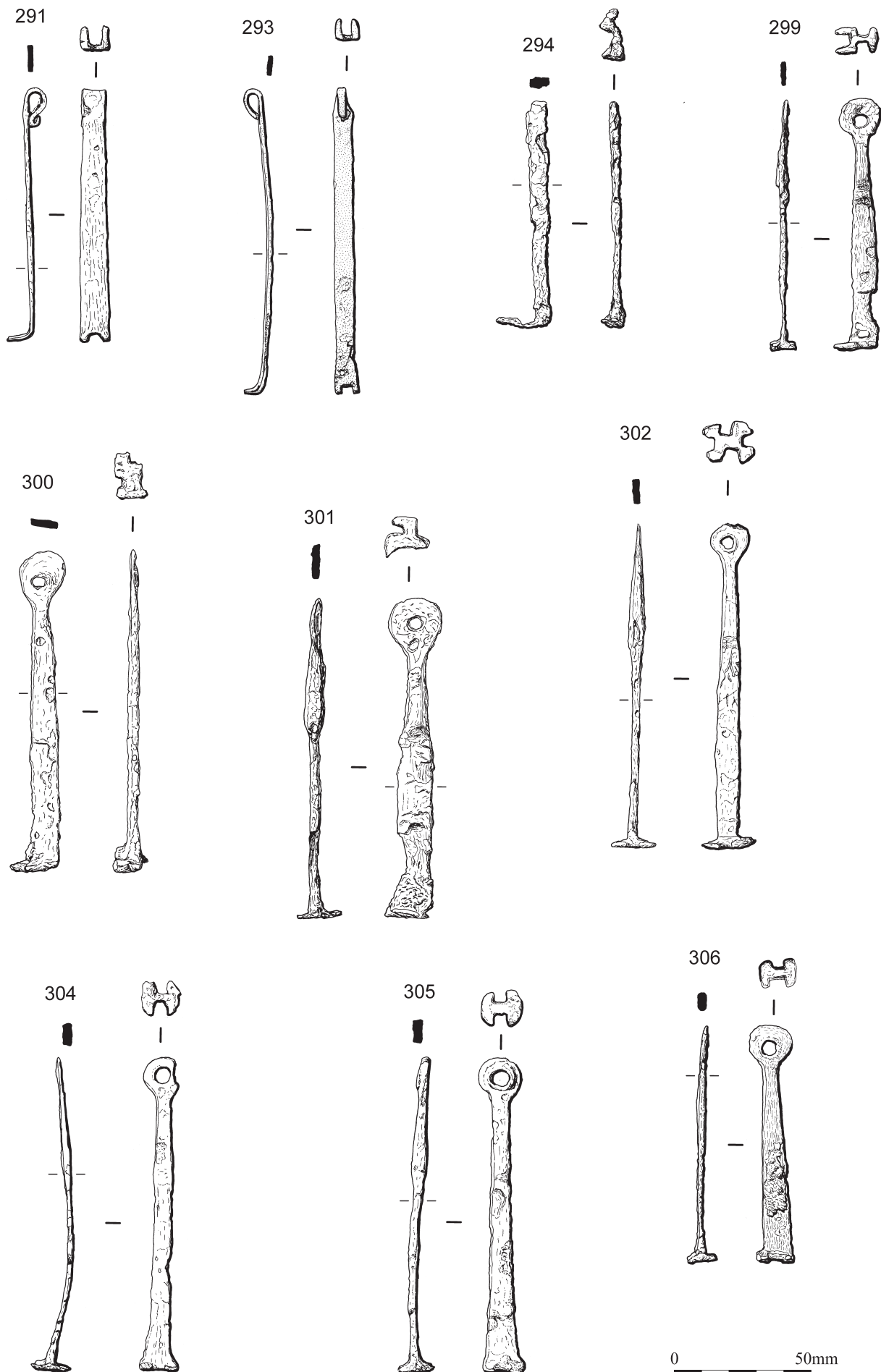
While Type C keys are well made and could also be beautifully decorated, the keys of Types A and B are much simpler, probably reflecting the fact that padlocks become less prestigious and more of an everyday tool over the course of the medieval period. The Type C bits were complex with series of clefts and wards which would fit a lock exactly. By contrast the Type A and B bits could sometimes show a distinct lack of variety considering the security of a lock is largely based on its uniqueness.



Illus 140 Fe. Padlock slide keys (Goodall Type C) Cat Nos 268–270.
Padlock slide keys (Goodall Type A) Cat Nos 271–275, 277, 279.



Illus 141 Fe. Padlock slide keys (Goodall Type A) Cat Nos 280–283, 285–287, 289, 290.



Illus 142 Fe. Padlock slide keys (Goodall Type A) Cat Nos 291, 293, 294.
Padlock slide keys (Goodall Type B) Cat Nos 299–302, 304–306.

With a maximum of four spring spines fitting within a barrel lock there are only a finite number of arrangements possible and, albeit with size as an additional variable, there are only a limited number of bit shapes possible. Even so, the same bit shapes are found recurring time and again some on both Type A and B keys (see Table 8), and by the 14th century the simplicity of bit shapes is striking. In fact the three two-pronged keys from Period V would probably have been interchangeable with each other, as would the three H-shaped keys. Conversely the most irregular and unusual of all the keys (Cat No 289) was also one of the latest. This has a split stem with a different bit on each, one 'H' shaped and one socketted. Despite this, the general trend towards simplification is apparent and coincides with a period of increasing frequency in finds of rotary keys and other evidence for mounted locks (see Mounted Locks and Lock Fittings, Rotary Keys and Hasps, below) and it would seem that by this time, though still numerous, barrel padlocks are occupying the lower end of the market compared to mounted locks.

Mounted locks and lock fittings (315–17)

By comparison with padlocks, there were very few identifiable remains from mounted locks. These were attached to doors, caskets and chests, and used with a rotary key. There was a ward plate (Cat No 315), part of the internal workings of a lock to control the operation of the key (see Ottaway and Rogers 2002, 2861) and a keyhole escutcheon (Cat No 316) of similar date, to mark and protect the keyhole. It seems likely that mounted locks are under-represented in this assemblage. They are both more difficult to identify from small pieces and as fittings attached to larger and often structural elements are less likely to be lost. Keys on the other hand, of any kind, can be (and frequently are) lost with equanimity. These still show a preference

for slide keys over rotary keys, if not quite such an exaggerated one, by a ratio of 3.5 to 1.

Rotary keys (318–30)

There were 13 rotary keys, all made of iron. Copper alloy keys are unusual in the medieval period. Rotary keys are for use with mounted locks, of which only a few fragments were found at Perth and case padlocks, of which there are apparently none. Smaller keys are for use with caskets, larger keys for chests and doors. Symmetrical bits can be used from both sides of a door, while asymmetric ones will only work from one side.

The keys were classified according to Goodall's Winchester typology (Goodall 1990, 1006–8), but there were not enough from the site to make any statistical analysis worthwhile. The majority of the keys fall into Goodall's Type 3 (Cat Nos 318, 319, 321–324), a common medieval construction, with a hollow stem, rolled in one piece with the bit. They are known from the 9th to the 14th centuries (Goodall 1990, 1007). Other types are represented only by single examples. There are three remarkably similar keys (Cat Nos 327–329), which appear to be very simple versions of Goodall's Type 8, which has a long life span from the medieval to post-medieval periods. They were unfortunately all from unphased contexts. The earliest key is Cat No 325, Goodall Type 6, a well made key with a complex channelled bit, from a context dating to c1150. The most finely made of all the keys is Cat No 330, also unstratified, which belongs to Goodall's Type 9. It is probably of post-medieval date, as medieval examples of this type of key are usually of copper alloy (Goodall 1990, 1007).

Of the nine phased keys from the site, five are from Period V. This coincides with a decline in barrel padlocks keys, though slides keys are still more common in the period.

Table 8 *Padlock slide key bit shapes.*

phase	I	II	III	IV	V	u/s	total	examples (cat nos)
date	c1100– 1150	c1150– 1200	c1200– 1250	c1250– 1300	c1300– 1350			
ring		2 (A)					2	271, 272
Two-pronged				1 (A)	3 (A)		4	278, 290, 291, 293
H-shaped				2 (A)	3 (B)	1 (B)	6	283, 286, 303, 304, 305, 306
'e'-shaped				5 (A)			5	277, 279, 280, 284, 285
'wine glass'- shaped		3 (A)	1 (B)	5 (A, B)	1 (A)		10	273, 274, 275, 281, 282, 287, 292, 297, 299, 300
other	1 (B)			1 (B)	1 (A)		3	289, 296, 302,
total	1	5	1	14	8	1	30	

Letters A and B denote key types.

Padlocks with tube directly attached to barrel (Goodall Type A)

225 (9) Barrel padlock (Type A) Fe

Padlock case with attached tube and bolt. Case with three longitudinal straps framing two wavy strips. Damaged T-shaped keyhole cuts across end-plate and underside of case. U-shaped padlock bolt with circular closing plate and spine with single double-leaf spring. Ample traces of copper base brazing fluid including traces of tin and lead. Overall length 65mm; length of case 43mm; case diameter 12mm.

12th century or earlier

A10560; L3940; X092m, NX12; D131, D132, DX081; C3747–2; MC013, T3747; Phase Ic; Rig VI

Illus 136

Padlocks with tube attached to barrel by fin (Goodall Type B)

226 (22) Barrel padlock Fe

Padlock case with fin, tube and bolt. Corrugated case with longitudinal straps. T-shaped keyhole along underside. Broken U-shaped bolt with circular closing plate. Length 61+mm; length of case 43mm; case diameter 23mm.

A3929a; L0167; X025m, X086m, X129m, X137m, NX9; D033, DX021, DX118; C3131–1; MC029, Pit 3125; Phase Id; Rig V

Illus 139

227 (49) Barrel padlock Fe

Padlock case with fin and tube. Case made from two overlapping pieces of sheet with five longitudinal straps. End-plate with rectangular hole for bolt entry. Keyhole lost. Case damaged. Length 65mm; length of case 65mm; case diameter 26mm.

A7357; L1449; X089m; D082, DX078; C3601–2; M14b(c);

Phase Ie, If; Rig V

Not illustrated

228 (254) Barrel padlock Fe

Broken padlock case, damaged, with T-shaped keyhole across end-plate and underside and stub of last fin. Length 44mm.

A8856; L1469; C2287–4; B13–Occupation (1bc); Phase IIh;

Rig VI

Not illustrated

229 (702) Barrel padlock Fe

Padlock case with fin, tube and bolt. Sixteen rods down case, between end bands. Edged rectangular keyhole in one end-plate, triple bolt entry in other. Irregular shaped straps for strengthening along fin, and binding tube to fin, though no straps around tube. U-shaped padlock bolt with scrolls above fragmentary circular closing plate and two remaining spines (third spine lost), each with double leaf springs. Overall copper brazing fluid on case and bolt. Case length 46mm; bolt length 62mm; maximum width 42mm; diameter of barrel 23mm.

A04–0562; L3883; NX12; C7298–7; B18 (Phase 2b), North Room, Hall and Hall South–Occupation (10); Phase IVb;

Rig VII

Not illustrated

230 (774) Barrel padlock Fe

Padlock case with fin and tube, the case reinforced by a series of longitudinal rods, the bottom three of which are thicker and twisted. One has an end loop. Rectangular keyhole in one end-plate, the other incomplete. Three straps bind the tapering tube to the fin. Length 35mm.

A5711a; L4249; X089m; D062, DX078; C2476–3; M1.4d; Phase IVb, IVc; Rig VI

Illus 136

231 (905) Barrel padlock Fe

Fin and broken tapering tube, two straps binding tube and fin.

Hole in fin, secondary. Length 54mm; height 19mm.

A7427c; L1447; X043m; D083, DX034, DX078; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI

Not illustrated

232 (909) Barrel padlock Fe

Sheet iron case, incomplete and damaged, retaining T-shaped keyhole at one end; shaping for base of fin. Most of case, but for one end, lost or caved in. Copious copper base plating on surviving surface. Length 44+mm; diameter 21mm.

A4806; L0103; X025m, NX1; DX021; C2190A-4; M1.4b; Phase IVb–IVcc; Rigs V and VI

Not illustrated

233 (1070) Barrel padlock Cu alloy

Padlock case with fin and tube. Plain case riveted to fin. Form of bolt entry not clear, keyhole lost. Length 60mm; case diameter 22mm.

A1817; L3941; X073m, X074m; DX062, DX088, DX089; C2423–3; MC165, Pit 2465; Phase Va(VI); Rig V

Not illustrated

234 (1223) Barrel padlock Fe

Padlock case with base of fin, the case reinforced by a series of projecting longitudinal straps. T-shaped keyhole across end-plate and underside of case; end-plate with bolt entry lost. Former fin and tube represented by fragment of fin. Overall copper base brazing fluid. One end of case complete, the other, where bolt abutted, lost. Length 49+mm; base diameter 35mm.

A04–0136; L4177; X194m, NX12; C7079–7; M1.5b; Phase Vaa;

Rigs VI and VII

Not illustrated

235 (1400) Barrel padlock Fe

Padlock case with fin and tube. Straps along upper part of case, twisted wires along underside. T-shaped keyhole across end-plate and underside of case, the end-plate repaired. Originally T-shaped bolt entry hole in other end-plate. Broad straps, one represented solely by a band of brazing fluid, band tapering tube to fin, which has single hole. Copper base plating. Length 56mm.

A04–0183; L4096; X198m; DX146, DX188; C7114–7; B53 (Phase 1), North Area–Occupation (2b); Phase Vb; Rig VII

Illus 136

236 (1402) Barrel padlock Fe

Padlock case with fin and tube. Broad straps around end of case, linked by projecting straps, six per side, with looped ends.

T-shaped keyhole across end-plate and underside of case, bolt entry hole in other end-plate. S-loop fitting on underneath of case. Straps bind tube to fin, latter strengthened by shaped straps. Overall copper base plating. Length 70mm; case length 60mm; case diameter 28mm.

A04-0196; L3950; X200m, NX3; DX148; C7118-7; B53 (Phase 1), South Area-Occupation (2c); Phase Vb; Rig VII
Illus 136

237 (1461) Barrel padlock Fe

Padlock case with fin and tube. Rods along case, with keyhole and bolt entry holes in opposing end-plates. Two holes in fin which is attached by straps to both case and tapering tube. Overall copper base brazing fluid. Length 71mm; case diameter 35mm.

A04-0118; L3959; X191m, NX7; C7084-7; B53 (Phase 2), North Area-Occupation (12); Phase Vbb; Rig VII
Illus 139

238 (1539) Barrel padlock Fe

Padlock case and base of fin. Projecting ribs along case, one, along underside, wavy. T-shaped keyhole across end-plate and underside; bolt entry in other end-plate. Green from copper base brazing. Length 73mm; case diameter 34mm.

A6469; L0876; X002; D072, DX003; C2761-2; M4a; Phase Vaa-Vc; Rigs V and VI
Illus 139

239 (1711) Barrel padlock Cu alloy

Padlock case fragment with base of fin and part of bolt-entry end-plate. Overall copper base brazing fluid. Length 34+mm; width 42mm.

A04-0098; L4251; X188m; C9009-9; Unstratified; Rig VII
Not illustrated

240 (1712) Barrel padlock Fe

Padlock case with fin, tube and bolt. Rods of 1.5mm diameter down case, six per side, that along base looped. Original T-shaped keyhole across end-plate and end of underside. Incomplete fin and tube bound by strap. U-shaped padlock bolt with scrolls above circular closing plate. Three spines, all probably formerly with double leaf springs. Padlock bolt splits into two as it enters case, each spine probably has two leaf springs. Decorative scrolls below bolt. Copper base plating all over including bolt. Case length 46mm; case diameter 23mm; height including fin and tube 46mm; overall length 77mm.

A0504; L4040; X002, NX3; D007AB, DX003; C2003-7/10; Unstratified, Sondage 2003; Rigs VII/VIII
Illus 137

Padlock with tube encased in U-sectioned housing

241 (1219) Part of padlock? Fe

Possible padlock case with U-shaped housing. Heavy copper base plating. Height 50mm; width 33mm by 26mm.

A04-0131; L3949; X214m; D058, DX162; C7079-7; M1.5b; Phase Vaa; Rigs VI and VII
Not illustrated

242 (1296) Barrel padlock Fe

Padlock case fragment. Overall copper base brazing fluid.

U-shaped end bracket, start of sheet metal base, ribbed end. Height 34+mm; length 20+mm; width 17mm.

A04-0293; L3994; X209m; DX157; C7163-7; M8a; Phase Va,Vaa; Rig VII
Not illustrated

243 (1376) Barrel padlock Fe

Padlock case with U-shaped housings, the case with longitudinal straps, T-shaped keyhole across an end-plate and the underside triple bolt entry holes in other end-plate. U-shaped housings incomplete, the lower parts closed, the upper open to allow the passage of the free arm of the bolt. Iron rods corroded out along sides. Overall copper-tin brazing fluid with traces of lead and zinc. Length 49mm; case diameter 30mm.

A04-0271; L4069; X207m, NX7; DX155; C7113-7; B53 (Phase 1), Central Area-Occupation (2a); Phase Vb; Rig VII
Illus 138

244 (1582) Barrel padlock Fe

Padlock case, broken with traces of longitudinal straps, incomplete bolt entry plate, and U-shaped mount with hole for passage of free arm of padlock bolt. Copper base brazing fluid. Length 28+mm; height 72mm; case diameter 36mm.

A04-0046; X176m, X177m; C7035-7; M7; Phase Vc; Rig VII
Illus 138

U-shaped padlock bolts (from any of the above types)

245 (72) Padlock bolt Fe

U-shaped padlock bolt, free arm broken, the other with a single spine retaining an incomplete, riveted-on, single piece, double leaf spring and one of two side springs. The complete side spring is attached to a projection close to the tips of the spine and has a forked inner end passing over an expansion of the spine. Length 75mm; height 42mm.

A10871; L1015; NX4; C5034-3; MC049; Phase IIa; Rig V
Illus 139

246 (406) Padlock bolt Fe

U-shaped padlock bolt, both arms broken. Length 54+mm; width 53+mm.

A6583; L1476; X137m, NX10; DX118; C2804-2; P2.3a; Phase IVaa; Rig V
Not illustrated

247 (464) Padlock bolt Fe

U-shaped padlock bolt, distorted, with pair of spines with double leaf springs. Circular closing plate and free arm broken. Holes through both sets of springs, opposed but not aligned pair to pair. Traces of copper base plating or brazing fluid. Overall length 63mm.

A7909; L4008; X081m, NX10; D088, DX070; C2565-3; B3 (South), PW2555; Phase IVa,IVaa; Rig V
Illus 137

248 (496) Padlock bolt Fe

U-shaped padlock bolt with circular closing plate and four spines, each with double leaf springs, surrounding a broken, central rod. Some decorative scroll-work survives above the closing plate, as well as lengths of twisted wire around the U. Covered with copper base plating. Length 86mm. A8355; L3896; X024m, NX14; D093, DX020; C2191–4; B11, T2191, WW2191; Phase IVaa; Rig VI
Illus 138

249 (741) Padlock bolt Fe

U-shaped padlock bolt with three spines each with double leaf spring, all riveted to spines. Circular closing plate. Copper base plating. Length 70mm; height 44mm. A04–0606; L1164; X225m; C6162–10; M9b(a); Phase IVc; Rig VIII
Illus 137

250 (899) Padlock bolt Fe

U-shaped padlock bolt, both arms broken. Length 25+mm; height 32mm. A6590; L1452; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Not illustrated

251 (971) Padlock bolt Fe

U-shaped padlock bolt, free arm complete, spring arm broken and angled. Overall copper base plating. Length 59+mm; width 49mm. A04–0139; L4088; X194m; D041; C9013–9; M9a; Phase IVc, IVcc; Rig VII
Not illustrated

252 (1052) Padlock bolt Fe

U-shaped padlock bolt, free arm near complete, spring arm lost. Length 78mm. A1396; L0119; C2407–3; B34, MF2407; Phase Va; Rig VI
Not illustrated

253 (1287) Padlock bolt Cu alloy

U-shaped padlock bolt, tip of free arm lost. Single spine retains rivet which secured former double leaf spring. Length 75+mm; width 37mm. A04–0287; L3996; X208m; DX156; C7159–7; M8a; Phase Va, Vaa; Rig VII
Not illustrated

254 (1769) Padlock bolt Fe

U-shaped padlock bolt, free arm and spine broken. Length 79mm; width 38+mm. Copper base plating where lock plate/scrolls were. A04–0107; L4132; X190m; D077; C7000–7–10; Unstratified; Rigs VI–VIII
Illus 139

Other types of padlock (Goodall Types C, D and other)**255 (276) Padlock bolt (Goodall Type D) Fe**

T-shaped padlock bolt with single spine projecting beyond circular closing plate as loop. Double leaf spring riveted through base of spine. Top of one spring split to pass over bar added to

spine. Length 87mm; closing plate diameter 22mm.

A9926; L0970; X134m; DX115; C2462C-3; M1.3; Phase III; Rig VI
Illus 139

256 (586) Barrel padlock shackle (Goodall Type D) Fe

Part of shackle, from padlock with shackle. Length 54+mm; width 10–18mm. A04–0623; L3826; C7326–7; M1.4f; Phase IVc; Rig VI
Not illustrated

257 (634) Barrel padlock shackle (Goodall Type D) Fe

Broken shackle, from padlock with shackle. Width 58mm. A04–0590; L1180; X225m; C7306–7; B18 (Phase 2a), North Room and Hall-Construction (1); Phase IVb; Rig VII
Illus 139

258 (1751) Barrel padlock (Goodall Type D) Fe

Padlock case fragment from barrel padlock with shackle. Case has opening for entry of expanded and perforated end of shackle. Overall copper base brazing fluid, copiously laid over much of back. Length 63+mm; case diameter 38mm. A04–0054; L4101; X169m; D023, D103, D104; C7000–7–10; Unstratified; Rigs VI–VIII
Not illustrated

259 (1093) Padlock bolt (Goodall Type C) Fe

Squared L-shaped padlock bolt, both arms incomplete. Spring arm corroded but including at least one spine. Length 46+mm; height 55mm. A04–0415; L0615; C7185–7; P8.4; Phase Va; Rig VII
Not illustrated

260 (1218) Box Padlock? Fe

Padlock case with tube down one side to take free arm of bolt. Copper base brazing fluid. Length 69mm; width of case 48mm; overall width 55mm; thickness 18mm. A04–0130; L3957; X193m; D055, D056, D057, DX141; C7079–7; M1.5b; Phase Vaa; Rigs VI and VII
Not illustrated

Padlock fragments**261 (244) Padlock bolt Fe**

Base of spine with single spring. Length 40+mm; spine width 7mm. A1793e; L0273; C0206–5; Garden 2; Phase 17 (North Sector)
Not illustrated

262 (858) Barrel padlock Fe

Padlock case fragment with single longitudinal rod. Length 45+mm; width 21+mm. A5524; L2262; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Not illustrated

263 (1239) Barrel padlock Fe

Padlock case fragment with rods along case and one rod out of place, misplaced along inner face. Length 49+mm; width 14mm. A04–0364; L0575; C7082–7; M1.5b; Phase Vaa; Rigs VI and VII
Not illustrated

264 (1350) Padlock bolt Fe

Spine with riveted tip for former springs. Length 57+mm; width 7mm.
A04–0274a; L4064; X208m; DX156; C7139–7; B53 (Phase 1), South Area-H7137; Phase Vb; Rig VII
Not illustrated

265 (1792) Padlock bolt Fe

Double leaf spring, incomplete with base of spine. Length 72+mm.
A6521; L2216; C0250–5&A; CG021; Phase12 (North Sector)
Not illustrated

266 (not used)**Padlock slide keys with straight bits (Goodall Type C)****267 (21) Padlock key (Goodall Type C) Fe**

Looped terminal, swollen stem with spirally twisted copper alloy decoration, moulding at junction with bit. Complete bit for two-spined spring. Length 57mm.
A04–0703; L2157; X236m, NX10; C6522–1; B8–Occupation (2); Phase (Icc)Id; Rig VI
Not illustrated

268 (53) Padlock key (Goodall Type C) Fe

Looped terminal, swollen stem with moulding at junction with bit. Damaged bit for two- or three-spined spring. Original length 93mm.
A10761; NX4; C5067–3; MC034a; Phase Ie(If); Rig V
Illus 140

269 (132) Padlock key (Goodall Type C) Fe

Looped terminal with moulding at junction with swollen stem. Complete bit for two-spined spring. Length 120mm.
A9900; NX8; C2365–4; M1.1c; Phase IId; Rig VI
Illus 140

270 (1737) Padlock key (Goodall Type C) Fe

Looped terminal, gently swollen stem. Complete bit for three-spined spring. Length 67mm.
A04–0024; L3969; X164m; D019; C7000–7–10; Unstratified; Rigs VI–VIII
Illus 140

Padlock slide keys with bit set laterally to stem (Goodall Type A)**271 (140) Padlock key (Goodall Type A) Fe**

Hooked expanded terminal, plain stem. Complete bit for one- or two-spined spring. Length 111mm.
A10433; L1058; X125m, NX8; C4443–3; M1.1a; Phase IId–Ile; Rig VI
Illus 140

272 (151) Padlock key (Goodall Type A) Fe

Hooked expanded terminal, plain stem. Complete bit for one- or two-spined spring. Length 110mm.
A11094; L1025; X048m; D141, DX039; C4486–3; B5, T4485; Phase IIa–IIff; Rig V
Illus 140

273 (222) Padlock key (Goodall Type A) Fe

Looped terminal, stepped stem. Bit separately applied as later repair, for three-spined spring. Copious traces of copper brazing fluid. Length 85mm.
A9133a; X022m; D108, DX018; C2611–3; M1.2, Pit 2648; Phase <IIg(IIh); Rig VI
Illus 140

274 (237) Padlock key (Goodall Type A) Fe

Looped terminal, stepped stem. Complete bit for three-spined spring. Length 98mm.
A8360; NX8; C2239–4; M11; Phase IIh; Rigs V and VI
Illus 140

275 (265) Padlock key (Goodall Type A) Fe

Looped terminal, stepped stem. Complete bit for three-spined spring. Length 147mm.
A9052a; C2462C-3; M1.3; Phase Ili; Rig VI
Illus 140

276 (410) Padlock key (Goodall Type A) Fe

Hooked expanded terminal, distorted stem. Broken bit. Length 161mm.
A5219; L2230; C2215–4; MC156; Phase IVaa; Rig V
Not illustrated

277 (421) Padlock key (Goodall Type A) Fe

Broken stem. Complete bit for two- or three-spined spring. Length 46+mm.
A5527; L2265; X048m; DX039; C2824–2; B26–Floor/Occupation (6); Phase IIg-IVaa; Rig V
Illus 140

278 (428) Padlock key (Goodall Type A) Fe

Hooked expanded terminal, plain distorted stem. Broken bit for ?single-spined spring. Length 146mm.
A04–0671; L2131; X233m; C7358–7; MC130; Phase <IIlc-IVaa; Rig VII
Not illustrated

279 (482) Padlock key (Goodall Type A) Fe

Hooked expanded terminal, plain stem. Complete bit for two- or three-spined spring.
A04–0625; L1151; X229; DX176; C7334–7; B18 (Phase 1b), North Room-Occupation (5b); Phase IVa,IVaa; Rig VII
Illus 140

280 (516) Padlock key (Goodall Type A) Fe

Hooked expanded terminal, plain stem. Complete bit for two- or three-spined spring. Length 129mm.
A04–0643; L2116; X230m; DX177; C7336–7; MC126, Pit 7402; Phase IVaa,IVb; Rig VII
Illus 141

281 (520) Padlock key (Goodall Type A) Fe

Looped terminal, plain stem. Complete bit for three-spined spring. Length 101mm.
A04–0632a; L2110; X230m; DX177; C7342–7; MC126, Pit 7402; Phase IVaa,IVb; Rig VII
Illus 141

282 (543) Padlock key (Goodall Type A) Fe

Looped terminal, stepped stem with nicks along edges of lower part. Broken bit for three-spined spring. Length 105mm.

A04-0647; L2117; X230m; DX177; C7320-7; B18 (Phase 1/2); Phase IVaa, IVb; Rig VII

Illus 141

283 (584) Padlock key (Goodall Type A) Fe

Looped terminal, expanded stem, bent back at join with bit. Complete bit for two-spined spring.

A04-0614; L1158; X229m; DX176; C7326-7; M1.4f; Phase IVc; Rig VI

Illus 141

284 (602) Padlock key (Goodall Type A) Fe

Broken stem. Complete bit for two- or three-spined spring. Length 49+mm.

A04-0699b; C7363-7; MC130; Phase <IIIc-IVaa; Rig VII.

Not illustrated

285 (620) Padlock key (Goodall Type A) Fe

Hooked expanded terminal, plain stem. Complete bit for three-spined spring. Length 167mm.

A04-0564; L1204; X223m; DX170; C7306-7; B18 (Phase 2a), North Room and Hall-Construction (1); Phase IVb; Rig VII

Illus 141

286 (662) Padlock key (Goodall Type A) Fe

Looped terminal, stepped stem. Near complete bit for two-spined spring. Length 92mm.

A04-0314; L0538; C9174-9; B18 (Phase 2a), Hall

South-Occupation (3); Phase IVb; Rig VII

Illus 141

287 (723) Padlock Key (Goodall Type A) Fe

Hooked expanded terminal, plain stem. Complete bit for three-spined spring. Length 132mm.

A04-0541; L1219B; C7289-7; B18 (Phase 2b), Hall and Hall

South-Occupation (12a); Phase IVb; Rig VII

Illus 141

288 (836) Padlock key (Goodall Type A) Fe

Hooked terminal, plain stem broadening towards bottom.

Broken bit. Length 97+mm.

A5134; L0146; X060m, NX4; D178, DX051; C2462A-3; M1.4c;

Phase IIIa-IVcc; Rigs V and VI

Not illustrated

289 (1181) Padlock key (Goodall Type A) Fe

Looped terminal, split stem. One arm terminating in bit, the other in an open socket. Length 111mm.

A3561; L3897; X109m; DX091; C2404-3; M1.5a; Phase

Va, Vaa(VI); Rigs V and VI

Illus 141

290 (1189) Padlock key (Goodall Type A) Fe

Hooked terminal, plain stem. Complete bit for single-spined spring. Length 103mm.

A4198; L0175; C2404-3; M1.5a; Phase Va, Vaa(VI); Rigs V and VI

Illus 141

291 (1250) Padlock key (Goodall Type A) Fe

Hooked terminal, plain stem. Complete bit for single-spined spring. Length 92mm.

A04-0330; L0551; C7169-7; M1.5b; Phase Vaa; Rigs VI and VII

Illus 142

292 (1260) Padlock key (Goodall Type A) Fe

Broken stem. Complete bit for three-spined spring. Length 65+mm.

A04-0360a; L0573; NX8; C7169-7; M1.5b; Phase Vaa; Rigs VI and VII

Not illustrated

293 (1279) Padlock key (Goodall Type A) Cu alloy

Hooked terminal, plain stem. Complete bit for single-spined spring. Length 108mm.

A04-0400; L3860; C7140-7; M8a; Phase Va, Vaa; Rig VII

Illus 142

294 (1429) Padlock key (Goodall Type A) Fe

Broken stem, incomplete bit. Length 83+mm.

A04-0153; L4094; X195m; D069; C7071-7; B53 (Phase 2), South Area-Occupation (7a); Phase Vbb; Rig VII

Illus 142

295 (1434) Padlock key (Goodall Type A) Fe

Hooked terminal, plain stem. Broken bit. Length 105+mm.

A04-0149; L4161; X194m; D066; C7093-7; B53 (Phase 2),

North Area-Occupation (7b); Phase Vbb; Rig VII

Not illustrated

Padlock slide keys with bit central to stem (Goodall Type B)**296 (15) Padlock key (Goodall Type B) Fe**

Looped terminal, stepped stem. Broken bit. Length 108mm.

A11405; L1030; NX6; D146, DX039; C4593-4; MC004; Phase Ia; Rigs V and VI

Not illustrated

297 (349) Padlock key (Goodall Type B) Fe

Looped terminal, stepped stem. Complete bit for three-spined spring. Length 97mm.

A04-0691; L2146; X236m, NX6; C9416-9; M15, Pit 9415; Phase IIId; Rig VII

Not illustrated

298 (511) Padlock key (Goodall Type B) Fe

Looped terminal, stepped stem. Broken bit. Length 102mm.

A04-0684; L2141; X235m, NX6; C6178-10; MC131; Phase

<IVa-IVb; Rig VIII

Not illustrated

299 (739) Padlock key (Goodall Type B) Fe

Looped terminal, stepped stem. Complete bit for three-spined spring. Length 92mm.

A04-0604; L1166; X226m; DX173; C6162-10; M9b(a); Phase

IVc; Rig VIII

Illus 142

300 (897) Padlock key (Goodall Type B) Fe

Looped terminal, plain stem. Broken bit for three-spined spring. Length 116mm.

A6586a; L1481; NX8; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Illus 142

301 (898) Padlock key (Goodall Type B) Fe

Loop terminal, stepped stem. Broken bit. Length 116mm.

A6586b; L1481; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Illus 142

302 (1016) Padlock key (Goodall Type B) Fe

Looped terminal, stepped stem. Complete bit for four-spined spring. Length 118mm.

A04–0580; L1190; X226m; DX173; C6163–10; M9b(a), T6163; Phase IVc; Rig VIII
Illus 142

303 (1121) Padlock key (Goodall Type B) Fe

Looped terminal, stepped stem. Near complete bit for two-spined spring. Length 85mm.

A6336a; L2168; NX10; C2464–3; B1(a), Construction-Levelling; Phase IVcc,Va; Rig V
Not illustrated

304 (1251) Padlock key (Goodall Type B) Fe

Looped terminal, plain stem. Complete bit for two-spined spring. Length 112mm.

A04–0331; L0552; C7169–7; M1.5b; Phase Vaa; Rigs VI and VII
Illus 142

305 (1303) Padlock key (Goodall Type B) Fe

Looped terminal, stepped stem. Complete bit for two-spined spring. Length 115mm.

A04–0368; L0579; C7172–7; M8a, T7193; Phase Va,Vaa; Rig VII
Illus 142

306 (1787) Padlock key (Goodall Type B) Fe

Looped terminal, plain stem. Complete bit for two-spined stem. Length 86mm.

A0612; C0108–5&A; Lade (4); Phase 6–12(b–e) (North Sector)
Illus 142

Padlock slide key terminals**307 (61) Padlock key Fe**

Hooked and expanded terminal, broken stem. Length 63+mm.

A12648; L0948; C4727–4; B16b, Pit 4726; Phase Id-IIa; Rig V
Not illustrated

308 (129) Padlock key Fe

Hooked and expanded terminal, broken stem, Length 70+mm.

A04–0042; L4106; X169m; C5227–3; B4, Courtyard–Occupation; Phase IIc; Rig VI
Not illustrated

309 (264) Padlock key Fe

Hooked expanded terminal, broken stem. Length 91+mm.

A8498b; L1467; X056; D097, DX047; C2462C-3; M1.3; Phase III; Rig VI
Not illustrated

310 (429) Padlock key Fe

Hooked and expanded terminal, broken stem. Length 82+mm.

A04–0672; L2132; X234m; C7358–7; MC130; Phase <IIIc-IVaa; Rig VII
Not illustrated

311 (432) Padlock key Fe

Hooked terminal, broken stem. Length 57+mm.

A04–0685a; L2142; C7363–7; MC130; Phase <IIIc-IVaa; Rig VII
Not illustrated

312 (1389) Padlock key Fe

Hooked expanded terminal, broken stem. Length 142+mm.

A04–0254a; L3961; X205m, NX9; DX153; C7141–7; B53 (Phase 1), Central Area-Occupation (3c); Phase Vb; Rig VII
Not illustrated

313 (1421) Padlock key Fe

Looped terminal, broken stem. Length 73+mm.

A04–0160; L4127; X196m; DX144; C7099–7; B53 (Phase 2), South Area-Occupation (6); Phase Vbb; Rig VII
Not illustrated

314 (1575) Padlock key Fe

Hooked expanded terminal, stepped stem, broken. Length 145+mm.

A04–0699a; L2154; X235m; C7063–7; B53 (Phase 2), North Area-Occupation (17), and M7; Phase Vbb,Vc; Rig VII
Not illustrated

Lock ward**315 (585) Ward Fe**

Flat lozenge-shaped ward from lock. Length 68mm; height 22mm, Thickness 1.5mm.

A04–0622; L1153; X229m; DX176; C7326–7; M1.4f; Phase IVc; Rig VI
Illus 143

Keyhole escutcheon**316 (937) Keyhole escutcheon Fe**

Triangular plate, distorted, with keyhole and three corner holes. Length 67mm; width 46mm; thickness 1mm.

A04–0527; L1228; X220m; DX167; C7271–7; P8.3 and M9a, PW7267; Phase IVc,IVcc; Rig VII
Illus 143

Sliding bolt**317 (2013) Sliding bolt Fe**

Handle and bolt broken. Length 127+mm; height 64+mm.

A0542a; L0238; C0081–5&A; Lade (4); Phase 6–12 (b–e) (North Sector)
Illus 143

Rotary keys with hollow stems (Goodall Types 3 and 4)**318 (152) Key (Goodall Type 3) Fe**

Lozenge-shaped bow, hollow stem, rolled in one with symmetrical bit. Length 60mm.
A6891; X078m, X085m; D076, DX067, DX074; C3591–2; B5, North Room-Floor/Occupation (1); Phase IIa–IIff; Rig V
Illus 143

319 (940) Key (Goodall Type 3) Fe

Pear-shaped bow, asymmetrical bit rolled in one with hollow stem. Length 134mm.
A04–0478; L0662; C7226–7; M9a; Phase IVc, IVcc; Rig VII
Illus 143

320 (1021) Key (Goodall Type 4) Fe

Broken hollow stem, with separately applied channelled asymmetrical bit. Length 66+mm.
A04–0495; L1252; X218m; DX165; C7245–7; M1.4i; Phase IVcc; Rig VI
Not illustrated

321 (1360) Key (Goodall Type 3) Fe

Broken stem, repaired with copper base brazing fluid. Bow lost and replaced by solid finial. Hollow stem rolled in one with bit. Large asymmetrical bit with flange at base. Length 108+mm.
A04–0231; L4225; X202m; DX150; C7143–7; B53 (Phase 1), Central Area-Pit 7142; Phase Vb; Rig VII
Illus 143

322 (1383) Key (Goodall Type 3) Fe

Broken hollow stem, rolled in one with symmetrical bit. Copious copper base brazing and plating. Length 63+mm.
A04–0221; L3916; C7141–7; B53 (Phase 1), Central Area-Occupation (3c); Phase Vb; Rig VII
Not illustrated

323 (1596) Key (Goodall Type 3) Fe

Ring bow, decorated hollow stem, rolled in one with asymmetrical bit in S-shaped profile. Separately applied collar at head join of bow and stem, secured by copper base brazing fluid. Overall tinning. Length 196mm.
A3275a; L4044; X184m; C2169–4; P1a; Phase Vd; Rig VI
Not illustrated

324 (1597) Key (Goodall Type 3) Fe

Ring bow, hollow stem, rolled in one with broken bit. Length 148mm.
A3275b; L4044; X184m; C2169–4; P1a; Phase Vd; Rig VI
Illus 143

Rotary keys with solid stems (Goodall Types 6, 7 and 8)**325 (73) Key (Goodall Type 6) Fe**

Ring bow, moulding at head of solid stem, broken asymmetrical bit. Traces of non-ferrous plating. Length 95mm.
A10355; L1053; X104m; DX089; C4487–3; MC049, Pit 5259; Phase IIa; Rig V
Illus 143

326 (1210) Key (Goodall Type 7) Cu alloy

Ring bow, solid stem with projecting tip, plain bit. Length 52mm.
A04–0103; X173; C7079–7; M1.5b; Phase Vaa; Rigs VI and VII
Illus 143

327 (1731) Key (Goodall Type 8) Fe

Plate bow, with pierced square hole, solid stem with projecting tip. Complete symmetrical bit. Length 57mm.
A04–0018; L3976; X162; D017; C7000–7–10; Unstratified; Rigs VI–VIII
Not illustrated

328 (1860) Key (Goodall Type 8) Fe

Plate bow with pierced round hole, solid stem with projecting tip. Complete symmetrical bit. Length 87mm.
A1397; X087, X104m; DX070, DX089; C0206–5; Garden 2; Phase 17 (North Sector)
Not illustrated

329 (1884) Key (Goodall Type 8) Fe

Plate bow with pierced round hole, solid stem with projecting tip. Complete symmetrical bit. Length 97mm.
A1818; L0185; X103m, X104m; DX088; C0206–5; Garden 2; Phase 17 (North Sector)
Illus 143

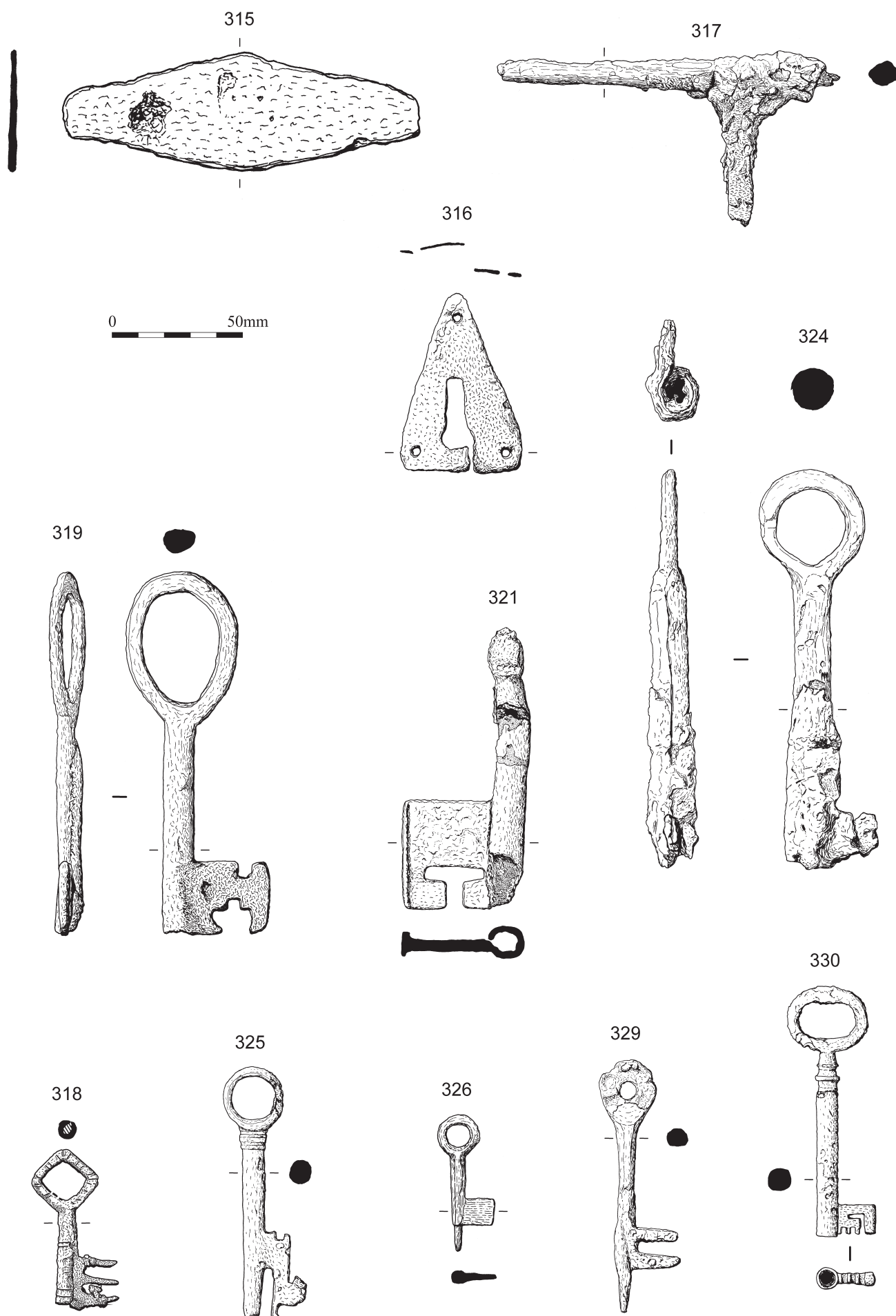
Rotary key with solid stems with hollow tip (Goodall Type 9)**330 (1713) Key (Goodall Type 9) Fe**

Oval bow, solid stem with moulded head and hollow tip. Complete asymmetrical bit. Length 95mm.
Post-medieval
A1800; L4011; X078, X104; DX067, DX089; C2003–7/10; Unstratified, Sondage 2003; Rigs VII/VIII
Illus 143

Candlesticks (331–47)

Prickets are the typical form of medieval candlestick. The candle was impaled on the central spike and held upright by the two side arms. The arms are invariably scrolled, a feature both decorative and serving to blunt the ends to avoid accidents. Most have straight stems (Cat Nos 333–341) suitable for fixing into a wooden base. Two of these are decoratively spirally twisted (Cat Nos 334, 336). Two have angled stems (Cat Nos 331, 332) suitable for wall mounting. Three candlesticks are of different form, with scrolled side arms but no pricket. The candle was presumably wedged between the two arms (Ottaway and Rogers 2002, 2855–6).

There are no examples of cupped candleholders, which are rare in early medieval deposits, but became increasingly common in the later medieval period (Egan 1998, 140; Goodall 1990, 983; Ottaway and Rogers 2002, 2856). There have been many finds of prickets from medieval Perth (for example Ford 1995, Illus 21:214; Cox 2003, Illus 13:8), but the earliest find of a socketed candlestick is from a 15th-century context



Illus 143 Fe. Ward Cat No 315. Sliding bolt Cat No 317. Keyhole escutcheon Cat No 316. Rotary keys with hollow stems Cat Nos 318, 319, 321, 324. Rotary keys with solid stems Cat Nos 325, 326, 329. Rotary keys with solid stems with hollow tips Cat No 330.

(Cox 1996b, 774–5).

Prickets with angled stems

331 (121) Candlestick Fe

Pricket candlestick with broad broken pricket, scrolled side arms and angled stem. Height 100+mm; width 55mm.

A11411; L1031; C5120–3; MC056, WW5120; Phase Ia–IIc; Rig VI
Illus 144

332 (398) Candlestick Fe

Pricket candlestick with scrolled side arms, one broken, and angled stem. Height 87+mm; width 44mm.

A8069; L0926; X132m; DX113; C2572–3; MC144, WW2221;
Phase <IIId–IVaa; Rigs V/VI
Illus 144

Prickets with straight stems

NB Some of the shorter broken stems (Cat No 340) may originally have been angled.

333 (728) Candlestick Fe

Candlestick, arm broken, pricket missing. Height 98+mm.

A04–0305b; L4234; X211m; DX159; C9156–9; B18 (Phase 2b),
Hall South-Occupation (13b); Phase IVb; Rig VII
Illus 144

334 (738) Candlestick Fe

Pricket candlestick with broken pricket, scrolled side arms, one broken and distorted spirally twisted stem. Height 109+mm.

A04–0603; L1167; X226m; DX173; C6162–10; M9b(a); Phase
IVc; Rig VIII
Illus 144

335 (833) Candlestick Fe

Pricket candlestick with broken pricket, one scrolled side arm remaining. Height 83mm.

A5121a; L0141; X069m; D177, DX059; C2462A-3; M1.4c; Phase
IIla–IVcc; Rigs V and VI
Not illustrated

336 (846) Candlestick Fe

Pricket candlestick with broken pricket, scrolled side arms and spirally twisted straight stem. Height 104+mm.

A5226; L4016; X092m; DX081; C2488–3; M1.4c; Phase
IIla–IVcc; Rigs V and VI
Illus 144

337 (847) Candlestick Fe

Pricket candlestick with scrolled side arms and straight stem. Height 100+mm.

A5313; L2237; X023m; D051, DX109; C2488–3; M1.4c; Phase
IIla–IVcc; Rigs V and VI
Illus 144

338 (1340) Candlestick Fe

Pricket candlestick, broken pricket, scrolled side arms and broken stem. Height 111+mm.

A04–0216; L3921; C7129–7; B53 (Phase 1), Central
Area-T7152; Phase Vb; Rig VII
Illus 144

339 (1451) Candlestick Fe

Pricket candlestick, broken pricket, scrolled side arms, one broken. Heavily corroded. Height 83+mm.

A04–0200; L4226; X201m; DX149; C7093–7; B53 (Phase 2),
North Area-Occupation (7b); Phase Vbb; Rig VII
Not illustrated

340 (1537) Candlestick Fe

Pricket candlestick with lentoid shaped pricket formed from two arms joined at top, scrolled side arms, broken stem. Length 60+mm.

A4202b; L0138; X067m; C2761–2; M4a; Phase Vaa–Vc; Rigs
V and VI
Not illustrated

341 (1717) Candlestick Fe

Pricket candlestick with broken pricket, scrolled side arms and straight stem. Height 88+mm.

A04–0002; L3988; D003; C7000–7–10; Unstratified; Rigs
VI–VIII
Illus 144

Pricket fragments

342 (627) Candlestick Fe

Pricket fragment, stem arm and pricket broken. Height 46+mm.

A04–0566b; L1201; X217m; DX164; C7306–7; B18 (Phase 2a),
North Room and Hall-Construction (1); Phase IVb; Rig VII
Not illustrated

343 (912) Candlestick Fe

Pricket candlestick fragment, pricket, and one side arm missing, stem broken. Height 66+mm.

A5492; L2241; X004, X015; DX005, DX015; C2190A-4; M1.4b;
Phase IVb–IVcc; Rigs V and VI
Not illustrated

344 (1339) Candlestick Fe

Pricket candlestick with distorted pricket, stem and side arms broken. Height 51+mm.

A04–0209; L3926; C7129–7; B53 (Phase 1), Central
Area-T7152; Phase Vb; Rig VII
Not illustrated

Candlesticks with no pricket

345 (611) Candlestick Fe

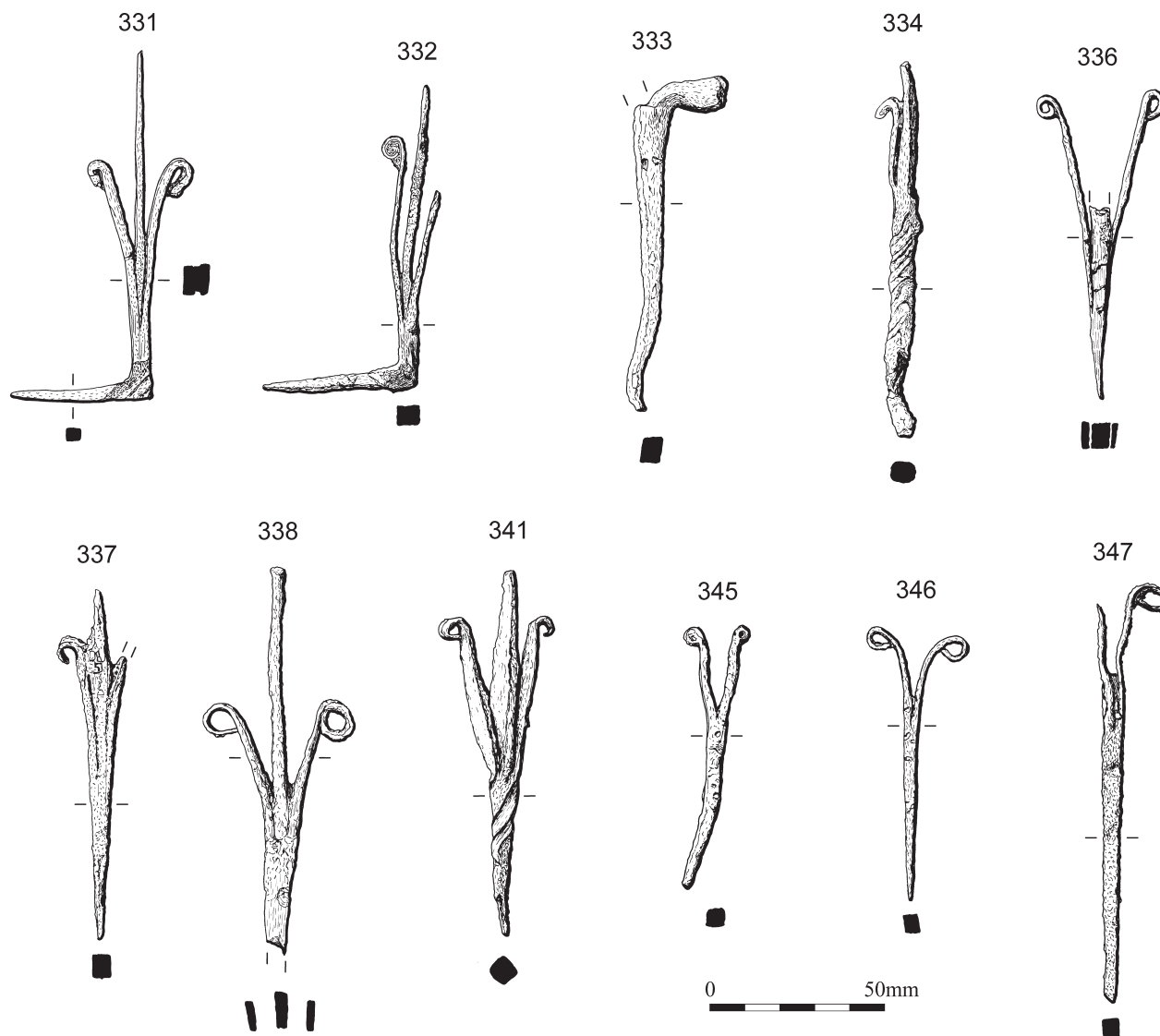
Candlestick with scrolled side arms and distorted straight stem. Length 77mm.

A04–0573a; L1196; X216m; DX153; C7308–7; B18 (Phase 2a
and 2b), WW7308; Phase IVb; Rig VII
Illus 144

346 (849) Candlestick Fe

Candlestick with scrolled side arms and straight stem. Height 78mm.

A5493; L2242; D059; C2488–3; M1.4c; Phase IIla–IVcc; Rigs
V and VI
Illus 144



Illus 144 Fe. Candlesticks, prickets with angled stems Cat Nos 331, 332. Candlesticks, prickets with straight stems Cat Nos 333, 334, 336–338, 341. Candlesticks, no pricket Cat Nos 345–347.

347 (1566) Candlestick Fe

Candlestick with scrolled side arms, complete. Height 120mm. A6518; L4012; C2186–4; M3a; Phase Vb-Vc; Rigs V and VI
Illus 144

Miscellaneous tools and objects (348–52)

Cat No 348 is an intriguing object, though very little of it remains. It is possibly a makeshift weapon. Cat No 349 is incomplete but is possibly a hollow key, for turning square ended pegs, such as those used on stringed instruments, or possibly part of an early tap spigot (cf Egan 1998, 244). Cat No 350 may have been part of a key, though the scrolled head would be very unusual. It may have been a surgeon's tool. Cat No 351 may be part of a skimmer or strainer for kitchen use (cf Egan 1998, 155–8), though known examples of both tend to be of copper alloy. Cat No 352 appears to be manufacturing waste, with a series of circular discs cut out of a thick sheet, for making into washers or similar

(see Egan and Pritchard 1991, 312–13 for similar shaped waste from bone bead making).

348 (359) Club with projecting nails Fe and wood

Fragment of possible club-like weapon? Part of spherical head with iron nails around circumference. Two nails with T-shaped heads (probably worn fiddle key horseshoe nails), one with head missing, holes for further lost nails. Central shaft for handle. Cut from centre of timber, hence present split condition. Sphere diameter c70mm; handle shaft diameter c15mm.

See also this Fascicule, Wood Cat No 204.

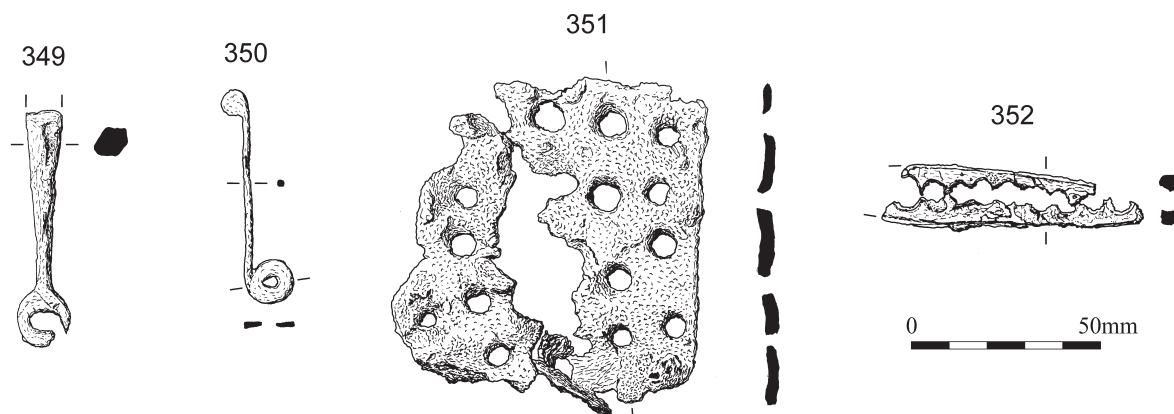
A11238; L5193; C2581–3; M6b; Phase IIg-IIIId; Rig V
Illus 188

349 (737) Tuning key? Fe

Looped terminal, broken stepped stem. Length 62mm.

A04–0592; L1178; X226m; DX173; C6162–10; M9b(a); Phase IVc; Rig VIII

Illus 145



Illus 145 Fe. Tuning key? Cat No 349. Surgeon's tool or key? Cat No 350. Perforated sheet Cat No 351. Perforated plate Cat No 352.

350 (948) Surgeon's tool or key? Fe

Scrolled head, slender stem, solid bit. Length 57mm.
A04-0506; L1245; X218m; DX165; C7247-7; M9a; Phase
IVc, IVcc; Rig VII
Illus 145

351 (1079) Perforated sheet Fe

Incomplete rectangular sheet, in two fragments, with rows of holes. Dimensions: larger, length 83mm, width 90mm, thickness 1.5mm; smaller, length 73mm, width 39mm, thickness 1.5mm.
A10729b; L1012; X091m; DX080; C2423-3; MC165, Pit 2465;
Phase Va(VI); Rig V
Illus 145

352 (1633) Perforated plate Fe

Near complete rectangular plate with nine circular perforations in row along centre. Length 76mm; height 17mm; thickness 4mm.
A04-0060; L4119; X166m; C8003-8; MC175; Phase Vdd-VIb;
Rig VII
Illus 145

Building ironwork and furnishings

Chains, rings, swivels, handles and hooks (353-73)

Chains had a variety of uses, including securing doors and windows, suspending vessels over the fire (eg Hurst 1961, 289), suspending buckets (eg Ottaway and Rogers 2002, 2807), tethering animals and human prisoners and horse and cart harness. There are eight chain links and lengths of chain from Perth. They range from the large (89mm) links of Cat No 353 to the tiny links of Cat No 360, which may in fact be distorted mail. The smaller chains have simple S-shaped links (Cat Nos 355, 357, 358, 360), the larger chains are more sturdily constructed with figure-of-eight links sometimes reinforced with collars around the centre (Cat Nos 354, 356, 359).

The most unusual of the chains is the earliest, Cat No 353, which is formed from long rods with hooked ends. Only Cat Nos 353 and 356 offer any evidence of their function. Both chains end in wide flat plates,

presumably for attachment to other objects, in the case of Cat No 356 a fragment of the sheet object to which it was nailed remains.

Rings again, had many uses, depending on their size (Cat Nos 361-363). They could be handles, parts of chain fittings, parts of horse harness or buckle frames. Swivel hooks (Cat Nos 364-366) could be attached to rings via holes pierced in the circumference, to provide a flexible joint in a chain, for cooking or horse harness purposes (Samson 1982, 466-467). A good example of a swivel ring attached to a chain of S-links was found at 80-86 High Street, Perth, across the road from this site (Cox 1997, Illus 18:54). Swivel hooks could also be attached directly to other objects (see Ottaway and Rogers 2002, 2807 for a swivel attached directly to a well bucket handle).

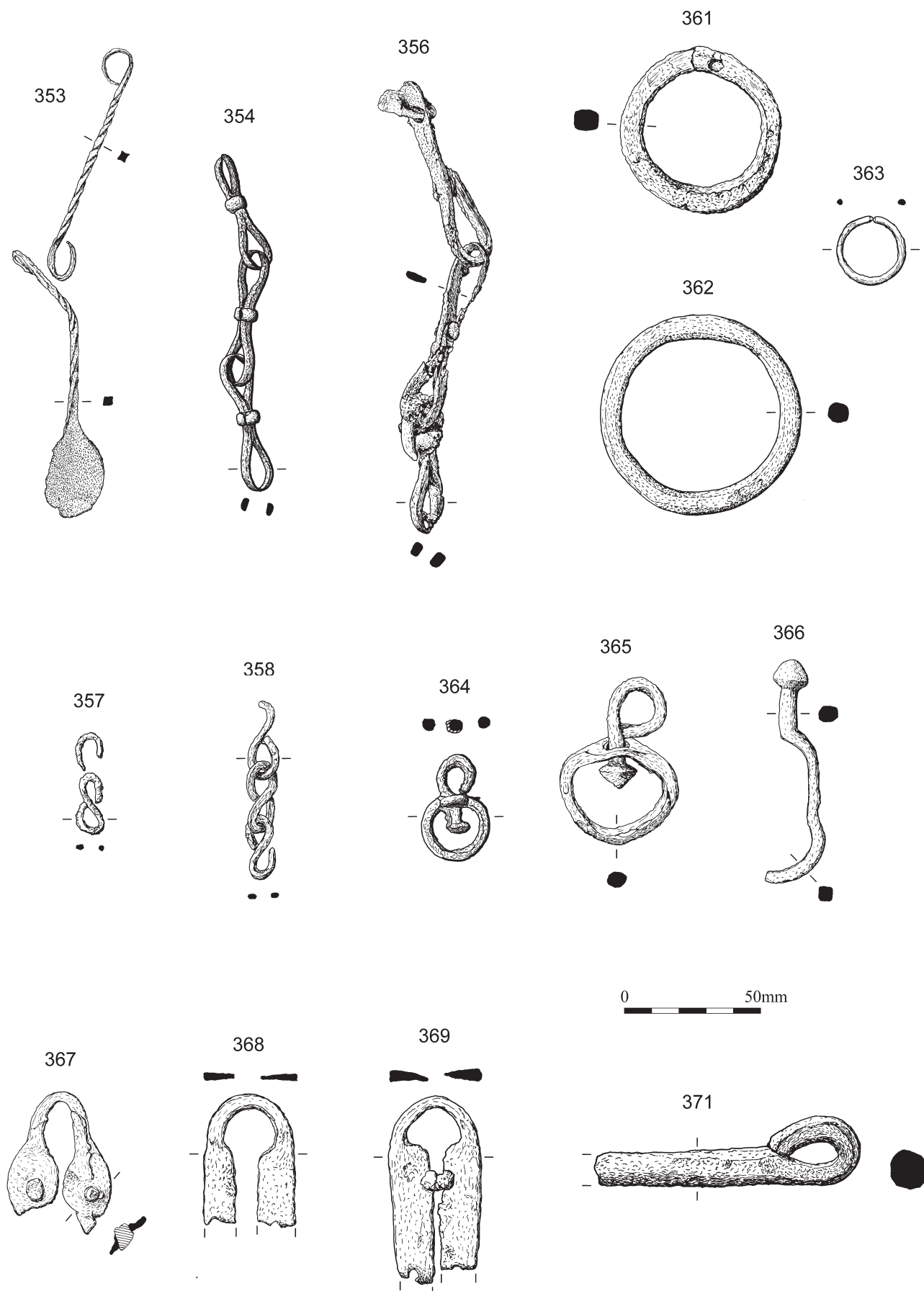
The handle loops (Cat Nos 367-369) were for the attaching of a handle to a bucket, cooking pot or other vessel. All are of the same form, a loop with a fixing plate on the end of each arm. Each plate bears the remains of only one rivet hole, though there may originally have been more for additional strength. The hooked ends of handles such as Cat Nos 370 and 371 would have fitted through the loops, to provide a movable and secure handle.

Hooks Cat Nos 372 and 373 would have fitted into a wall for suspension of chains, tools or other items. The indentations along the shank of Cat No 372 are for the purpose of keying to allow it to be mortared into a masonry wall (Ottaway and Rogers 2002, 2835).

Hasps (374-85)

Figure-of-eight hasps were used with padlocks to secure doors, windows, gates, chests and other items. The hasp was hinged at the hooked end and the loop at the other end brought down over a staple, and then secured by means of a padlock. An excavated example was found in Hull with staples still in place (Goodall 1987, fig 113:121).

There were eleven figure-of-eight hasps from the assemblage (Cat Nos 374-384); five had a decorative wrought spiral twist, a common decorative device on wrought ironwork (cf Ford 1995, Illus 22:255). Three



Illus 146 Fe. Chains Cat Nos 353, 354, 356, 358. Rings Cat Nos 361–363. Swivel books Cat Nos 364–366. Handle loops Cat Nos 367–369. Handle Cat No 371.

of the hasps are flat or gently curving and would have been suitable for doors and gates, but at least five have a sharply angled profile, suggesting they were used with caskets and chests.

There was also a stapled hasp (Cat No 385), part of a casket or chest locking mechanism. This would have been hinged at the looped end to the edge of the lid and, to close the chest, would have been brought down with the staple fitted inside a mounted lock and secured by means of a rotary key and sliding bolt (Ottaway and Rogers 2002, 2842–4; Egan 1998, 65–9; Goodall 1990, 973–4).

The Perth evidence is a little different to that from Winchester (Goodall 1990, 973–4). There, only one angled figure-of-eight hasp was found (Goodall 1990, 975, no 3477) and that from an 11th-century context, earlier than any of the Perth finds. Instead, Winchester has a much larger collection of stapled hasps. The same is true in medieval York (Ottaway and Rogers 2002, 2839–44). It suggests a certain degree of conservatism among Perth blacksmiths. While in 12th- to 14th-century Winchester and York, chests were largely secured by mounted locks, in Perth, there was still a preference for padlocks.

Hinges, mounts and bindings (386–411)

There were 12 finds identified as hinge pivots or pintles (Cat Nos 386–397). These were L-shaped pieces of iron, with a shank to fit into a wall or frame, and a vertical guide arm, often of round section on which the hinge pivoted. In all of the Perth examples, the shank is tapering and deeper in cross section than wide. This indicates they were designed to be fitted into wooden frames rather than masonry walls (Goodall 1990, 330). In two examples (Cat Nos 391, 394) the tip of the shank is clenched to hold it in place.

There were many pieces of iron strips and straps, some perforated, some with riveted joints, some curving, flat-sectioned, triangular or D-sectioned. For the most part these were unidentifiable. They could be parts of hinge straps, binding strips and corner brackets to reinforce wooden items. Only the identifiable and decorative pieces have been listed and discussed in this section. A list of the plainer pieces is given at the end of the catalogue (Cat Nos 468–518).

There were ten pieces of identifiable hinge strap (Cat Nos 398–407), chiefly from pieces of U-shaped eyes and scrolled terminals. The U-shaped eye is fixed to both sides of the door, leaving a loop at the edge to fit over the pintle. The three U-shaped examples (Cat Nos 398, 402, 405) all have shaped terminals. There were no examples found of a looped hinge strap, where the loop is made in the end of the strap and is fitted to only one side of the door. Larger pieces are from doors, windows and shutters and chests, smaller pieces from caskets.

There were four finds of decorative mounts and bindings, in one case, three mounts were found still attached to a wooden lid (Cat No 409). These were short straps with bifurcated scrolled terminals. The

plain end of the strap was bent down over the edge of the lid. They did not appear to serve any function other than decoration. Other finds were two narrow straps (Cat Nos 408, 410) which were simply ornamented with expanded perforated rings for fixing. Cat No 408 is hooked at the other end, suggesting it may have been a small hinge. The most ornate is from an early 14th-century context (Cat No 411), with both moulded and grooved decoration. It was probably part of a casket.

Staples (412–55)

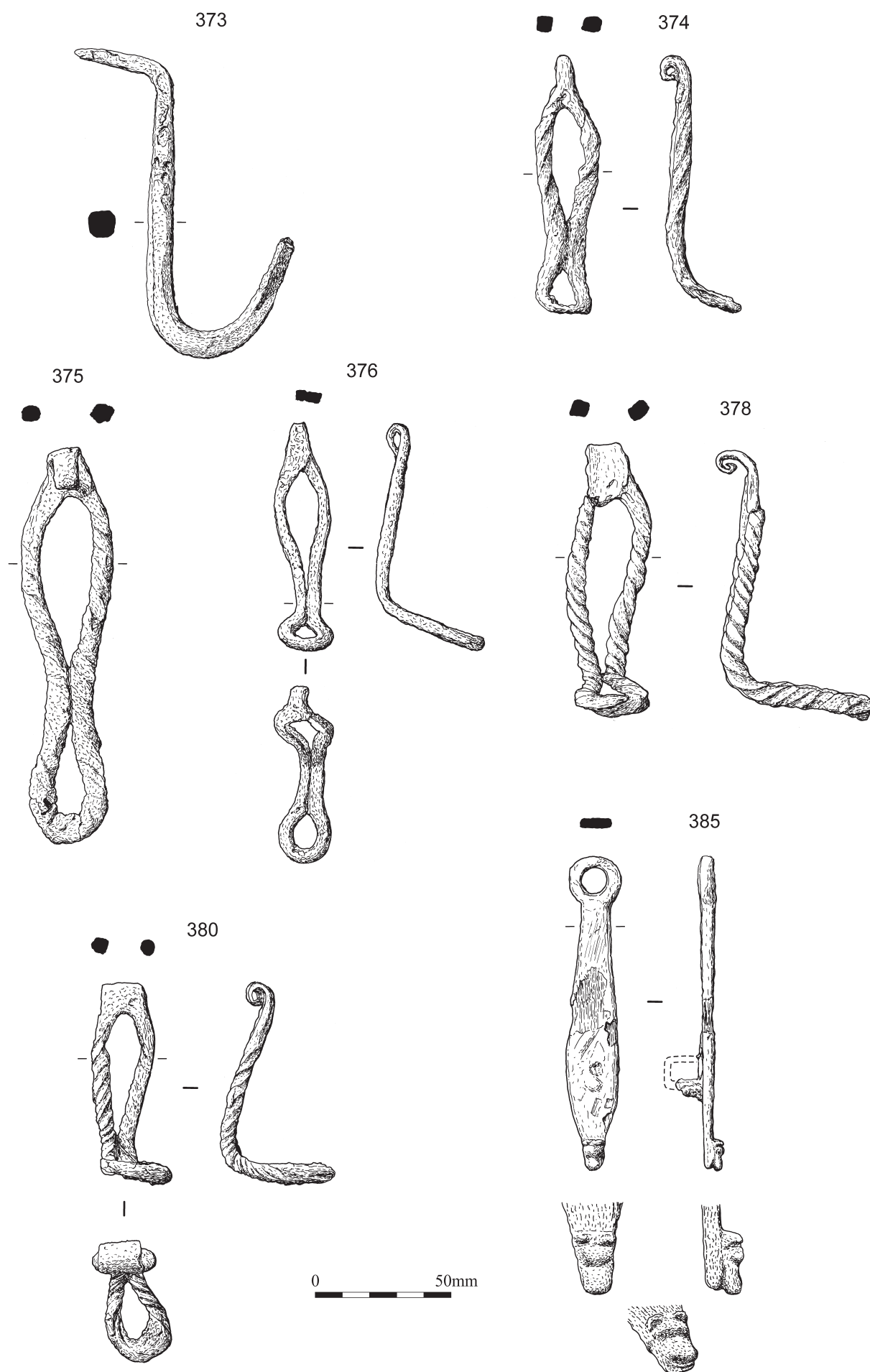
There were 33 U-shaped staples (Cat Nos 412–444), typically between 20mm and 30mm wide and between 40mm and 65mm long and with square or lozenge-shaped arms. They are sturdily made loops and would have been used for securing chains, hasps (see Goodall 1987, fig 113:121), hooks, handles and other fittings. There were only 11 rectangular staples (Cat Nos 445–455), though being thinner and more fragile, they may be underrepresented. Some have the ends of the arms clenched, either after being hammered through a piece of wood, or from being fitted round an object, like a binding. They may have acted as keepers for sliding bolts or for securing more lightweight fittings to wood (Goodall 1990, 334–5).

Nails (Illus 150, Nail Typology and Table 9)

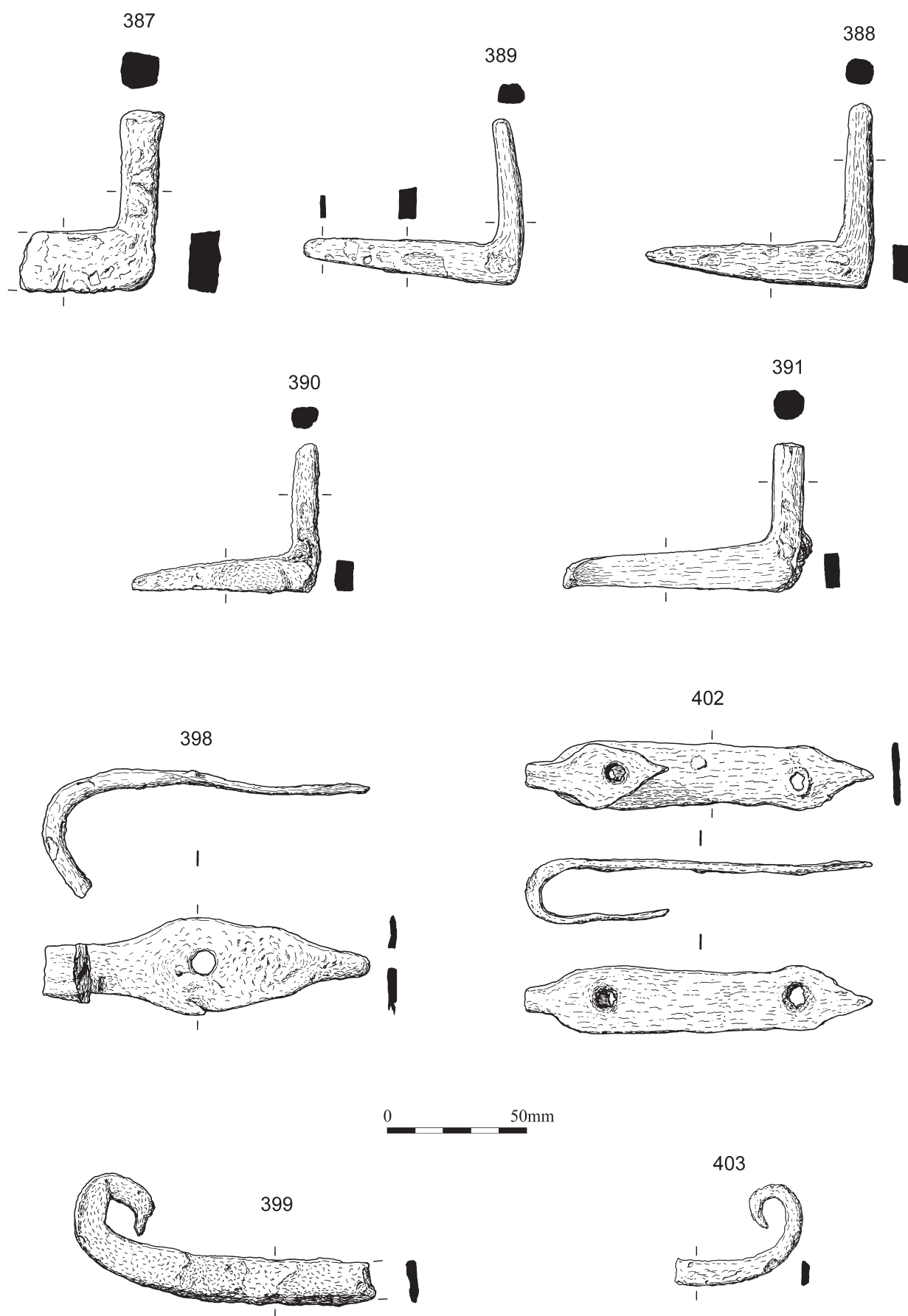
As in any medieval ironwork assemblage, the most common single type of find is nails. Here they have been classified according to the shape and size of the head. Some types appearing in Goodall's original typology have been omitted from this report. His Type E was a modern type, and Types F and L were represented by only one example each and no detailed descriptions were available. Types G, H and J were horseshoe nails and have been discussed above with the horseshoes (see Horse Gear above). Type K was a miscellaneous group of unidentifiable nails and shanks.

The remaining nails divide into four types (A–D), and are all suitable for woodworking purposes. The smaller and shorter nails were for purposes such as fixing fittings and joining furniture, the larger nails were suitable for securing structural joins. Included in the discussion are nails used with rove plates to form clench bolts. Clench bolts were designed to hold two thicknesses of wood together. This was useful both in boat construction and for making items such as doors and shutters. In all cases, equivalents are given to Ford and Walsh's (1987) Perth nail typology.

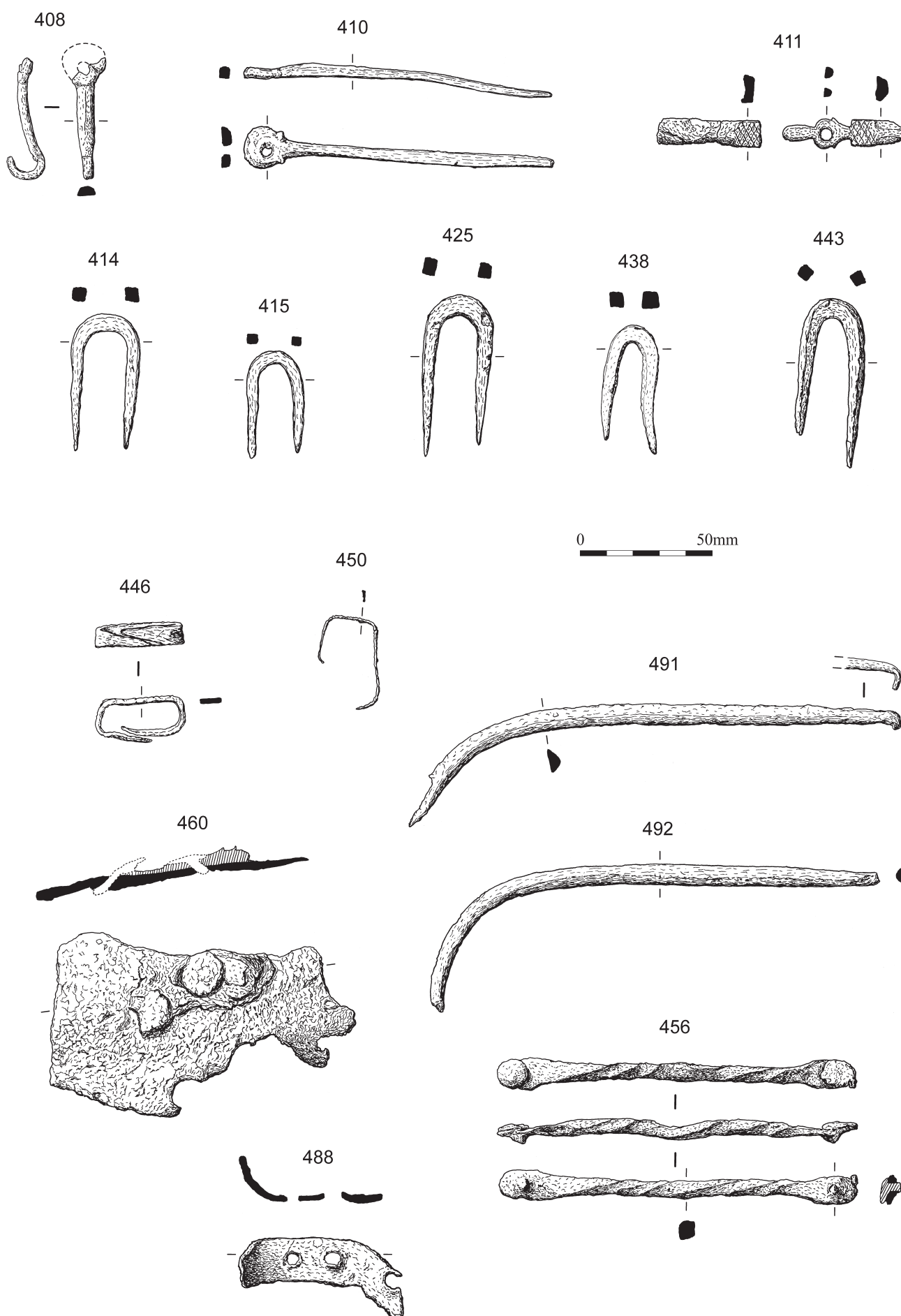
Types A and B are the most common types of nail (equating to Ford and Walsh's Type A). These both have flat heads and are distinguished by the size of the heads, Type B being the larger. The shanks of Type B nails are on average also longer, though there is a large overlap. Combined they are the most common nails in every period represented at Perth and this type of nail continues to be made up until the mechanisation of the industry in the 19th century.



Illus 147 Fe. Wall hook Cat No 373. Figure-of-eight hasps Cat Nos 374–376, 378, 380. Loop stapled hasp Cat No 385.



Illus 148 Fe. Hinge pivots Cat Nos 387–391. Hinge straps Cat Nos 398, 399, 402, 403.



Illus 149 Fe. Decorative bindings Cat Nos 408, 410, 411. Staples Cat Nos 414, 415, 425, 438, 443, 446, 450. Twisted bar Cat No 456. Sheet with horseshoe nails Cat No 460. Strap Cat No 488. Bindings Cat Nos 491, 492.

Over the course of the period represented in Perth, the proportion of Type B nails falls in relation to Type A, from about equal in the 12th century to less than a quarter the number in the 14th century, signifying a general decrease in head size over time. The larger Type B nails are more likely to be used as clench bolts, with a third of the number clenched, compared to only a small fraction of the smaller Type A.

Type C nails have figure-of-eight shaped heads and are relatively rare (Ford and Walsh Type G). The shape of the head may have been for decorative effect, though they might also have been useful where nails needed to be fitted in small and awkward places.

Type D nails have domed heads and are very rare, with only two examples found. These would have been used for their decorative effects. They are often found as part of clench bolts on doors, the domed heads also adding defensive strength to the door against attack from edged weapons. They appear to be more common in other Perth excavations (Ford and Walsh Type B), where they are found in approximately equal number to flat headed nails. Possibly this is due to different parameters, corrosion, or the generally later dating of Ford and Walsh's assemblage.

Nail typology

A Flat head, of square, rectangular or rounded shape, up to 20mm wide. Head width 7–19mm; 71 complete examples, lengths 26–94mm; average 54.2mm.

B Flat head, of square, rectangular or rounded shape, 20mm or over wide. Head width 20–30mm; 15 complete examples, lengths 37–113+mm; average 67.3mm.

C Figure-of-eight shaped head. Head width 6–21mm by 2–14mm; average 13.9mm by 7.2mm; 12 complete examples, lengths 37–72mm; average 53.3mm.

D Domed head. Head width 19–29mm; 1 complete example, length 93mm.

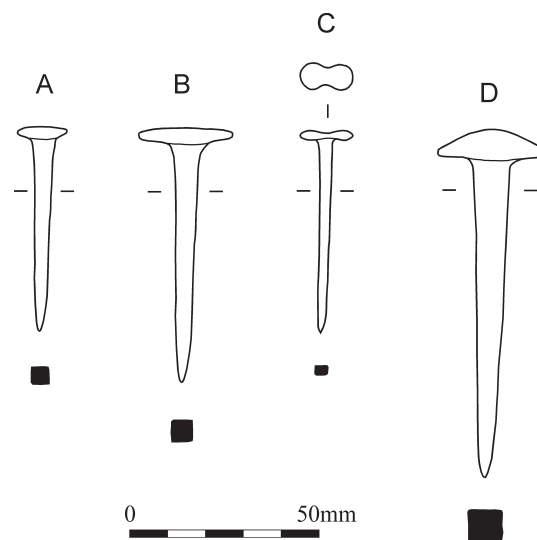
Other fittings (456–67)

There is an array of other miscellaneous fittings. Some are of uncertain function (Cat Nos 456, 462). Others are simple objects such as washers (Cat Nos 461, 467), collars for reinforcing or decoration (Cat Nos 464, 466), or sheets for reinforcing wooden objects (Cat Nos 458, 460). Cat No 460 is held by two horseshoe nails.

Chains

353 (200) Chain Fe

Two links: one elongated S-link; and link with spatulate terminal. Both with twisted shanks. Total length 192mm. A9278; L4041; C2342–4; B12, Occupation (1b); Phase IIe–IIg; Rig VI
Illus 146



Illus 150 Fe. Nail typology (after Ford and Walsh 1987).

354 (236) Chain Fe

Three figure-of-eight links with central collars. Total length 140mm. A9050; L3937; X082m, X085m; D105, DX071, DX074; C2615–3; M1.2, Pit 2648; Phase <IIg(IIh); Rig VI
Illus 146

355 (493) Chain link Fe

S-shaped link. Length 34mm. A04–0467; L0655; C9261–9; B18 (Phase 1b), Destruction; Phase IVa, IVaa; Rig VII
Not illustrated

356 (1191) Chain Fe

Two figure-of-eight links, one broken. A third U-shaped link expands at one end into a holed plate, with a horseshoe nail (Type H) through the hole. Total length 171mm. A4215; L0089; X057m; D036, DX048; C2404–3; M1.5a; Phase Va, Vaa(VI); Rigs V and VI
Illus 146

357 (1341) Chain Fe

Two S-shaped links, one broken. Total length 32mm. A04–0210; L3925; C7129–7; B53 (Phase 1), Central Area-T7152; Phase Vb; Rig VII
Illus 146

358 (1377) Chain Fe

Three S-shaped links, one broken. Total length 64+mm. A04–0211; L4862; C7141–7; B53 (Phase 1), Central Area-Occupation (3c); Phase Vb; Rig VII
Illus 146

359 (1608) Chain link Fe

Distorted broken figure-of-eight shaped link. Length 79mm. A4217; L0090; X015m; D037, DX015; C2174–4; M3c; Phase Vd; Rig V
Not illustrated

Table 9 *Chronological distribution of nails*

phase	I	II	III	IV	V	post-medieval or unstratified or North Sector	total
date	c1100– 1150	c1150– 1200	c1200– 1250	c1250– 1300	c1300– 1350		
Type A	2	16	5 (1)	57 (4)	45 (2)	60	185 (7)
Type B	5 (4)	14 (6)	-	36 (12)	11 (3)	9	75 (25)
Type C	-	3	-	6	8	13	30
Type D	-	1	-	-	1	-	2
unidentified or shanks	2	8	7	65	81	79	242
total	9	42	12	164	146	161	534

Numbers in brackets indicate those which have been made into clench bolts.

360 (1777) Chain Fe

Four S-shaped links, broken and distorted. Possibly chain mail? Dimensions 40mm by 35mm.
A04–0490a; L1257; X217m; DX164; C7000–7–10; Unstratified; Rigs VI–VIII
Not illustrated

Rings

361 (20) Ring Fe

Crudely made ring with overlapping ends welded, rectangular-sectioned. Diameter 58mm; thickness 7mm by 6mm.
A04–0702; L2156; X235m; C6522–1; B8–Occupation (2); Phase (Icc)Id; Rig VI
Illus 146

362 (190) Ring Fe

Complete ring, round-sectioned. Diameter 73mm; thickness 6mm.
A10421; L4006; X056m; D130, DX047; C2385–4; M10; Phase IId-IIg; Rig V
Illus 146

363 (870) Ring Fe

Ring, with abutting ends, round-sectioned. Diameter 25mm, thickness 2mm.
A6333; L2166; NX1; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Illus 146

Swivel hooks

364 (328) Swivel hook and ring Fe

Complete ring with swivel hook. Ring diameter 26mm; hook length 29mm.
A04–0439; L0632; C9246–9; P8.1c; Phase IIIc; Rig VII
Illus 146

365 (859) Swivel hook and ring Fe

Complete ring with swivel hook. Overall length 63mm.
A5526; L2264; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Illus 146

366 (1849) Swivel hook Fe

Hook distorted and broken. Length 82mm.
A10728g; L0963; C0206–5; Garden 2; Phase 17 (North Sector)
Illus 146

Handle supports

367 (235) Handle loop Fe

U-shaped handle loop, one terminal broken, rivets still in place. Length 52mm; width 38mm.
A12396; L0939; C2611–3; M1.2, Pit 2648; Phase <IIg(IIh); Rig VI
Illus 146

368 (565) Handle loop Fe

U-shaped handle loop, both terminals broken at rivet hole. Length 49+mm; width 34mm.
A04–0342; L0563; C9159–9; B18 (Phase 1/2), MF9194; Phase IVaa, IVb; Rig VII
Illus 146

369 (709) Handle loop Fe

U-shaped handle loop, both terminals broken at rivet hole. Length 69+mm; width 33mm.
A04–0555b; L1210; X218m; DX165; C7299–7; B18 (Phase 2b), North Room, Hall and Hall South-Occupation (10); Phase IVb; Rig VII
Illus 146

Handles

370 (564) Handle Fe

Broken handle, hooked end, round section, expanding to flatter section towards top. Length 195mm.

A04–0285; L3903; D096; C9159–9; B18 (Phase 1/2), MF9194; Phase IVaa, IVb; Rig VII

Not illustrated

371 (1076) Handle Fe

Looped terminal, round section. Length 98mm.

A5525; L2263; X123m; C2423–3; MC165, Pit 2465; Phase Va(VI); Rig V

Illus 146

Wall hooks

372 (226) Hook Fe

Upright pointed arm, expanded shank with a series of punched depressions. Length 166mm; height 55mm.

A9498; X112; DX093; C2611–3; M1.2, Pit 2648; Phase <IIg(IIIh); Rig VI

Not illustrated

373 (823) Hook Fe

Large tanged hook. Square-sectioned tang, round-sectioned hook with broken tip. Length 113mm; width 89+mm.

A4482; L4042; X082; DX071; C2462A–3; M1.4c; Phase IIIa–IVcc; Rigs V and VI

Illus 147

Figure-of-eight hasps

374 (354) Hasp Fe

Angled figure-of-eight shaped hasp, with hooked end. Of spirally twisted iron. Length 109mm.

A6351; L2181; X116m; DX097; C3549–2; M12; Phase IIg–IIIc(IVa); Rig V

Illus 147

375 (477) Hasp Fe

Gently curved figure-of-eight shaped hasp with hooked end. Of spirally twisted iron. Length 145mm; maximum width 33mm.

A04–0488; L1259; X225m; DX172; C9351–9; B18 (Phase 1b), North Room and South Room-Occupation (1); Phase IVa, IVaa; Rig VII

Illus 147

376 (536) Hasp Fe

Angled figure-of-eight shaped hasp with hooked end. Length 101mm; width 20mm.

A04–0593a; L1177; C7310–7; B18 (Phase 1/2); Phase IVaa, IVb; Rig VII

Illus 147

377 (639) Hasp Fe

Curved figure-of-eight shaped hasp with hooked end. Length 139mm; width 31mm.

A04–0335; L0556; C9165–9; B18 (Phase 2a), North Room and Hall-Construction (1); Phase IVb; Rig VII

Not illustrated

378 (650) Hasp Fe

Angled figure-of-eight shaped hasp with hooked end. Of spirally twisted iron. Length 140mm; width 30mm.

A04–0365; L0576; C9197–9; B18 (Phase 2a), Hall and Hall South-Construction (3); Phase IVb; Rig VII

Illus 147

379 (953) Hasp Fe

Broken curved figure-of-eight shaped hasp with hooked end. Of spirally twisted iron. Length 104+mm.

A04–0529; L1226; X219m; DX166; C7273–7; M9a; Phase IVc, IVcc; Rig VII

Not illustrated

380 (1047) Hasp Fe

Angled figure-of-eight shaped hasp with hooked end. Of spirally twisted iron. Length 108mm; width 24mm.

A5382; L2239; X123m; DX104; C2484–3; P6; Phase IVcc, Va; Rig VI

Illus 147

381 (1169) Hasp Fe

Smaller loop end of angled figure-of-eight shaped hasp. Length 42+mm.

A1794; L0272; C2404–3; M1.5a; Phase Va, Vaa(VI); Rigs V and VI

Not illustrated

382 (1330) Hasp Fe

Hooked tip end of figure-of-eight shaped hasp. Length 48+mm.

A04–0122; L3951; X213m; D036, DX161; C9012–7; M8a; Phase Va, Vaa; Rig VII

Not illustrated

383 (1790) Hasp Fe

Small loop end of figure-of-eight shaped hasp. Length 95+mm.

A12415; L0941; X035m; DX028; C0274–5; Lade (5); Phase 6–12(e) (North Sector)

Not illustrated

384 (2002) Hasp Fe

Broken flat figure-of-eight shaped hasp with hooked end. Length 104+mm.

A0420a; L0232; X141m; DX122; C1005-B; Unstratified, T1006, D1006 (North Sector)

Not illustrated

Looped stapled hasp

385 (1013) Hasp Fe

Looped, stapled hasp, with animal head tip. Broken D shaped staple. Length 115mm.

A04–0538; L1220; X219m; DX166; C6145–10; M9b(b); Phase IVc, IVcc; Rig VIII

Illus 147

Hinge pivots

386 (191) Hinge pivot Fe

Guide arm broken. Length 73mm; height 34+mm.
A10422; L0880; X092m; DX081; C2385–4; M10; Phase II d-IIg;
Rig V
Not illustrated

387 (319) Hinge pivot Fe

Shank broken, substantial pivot. Length 47+mm; height 62mm.
A12533; L0946; D159; C4649–4; MC128; Phase III b,IIIc; Rigs V/VI
Illus 148

388 (567) Hinge pivot Fe

Complete, with tall guide arm. Length 66mm; height 81mm.
A04–0444; L0637; C9268–9; B18 (Phase 1/2), T9269; Phase
IVaa,IVb; Rig VII
Illus 148

389 (651) Hinge pivot Fe

Complete, slender tall guide arm, slender tapering shank.
Length 78mm; height 59mm.
A04–0391; L0598; C9197–9; B18 (Phase 2a), Hall and Hall
South-Construction (3); Phase IVb; Rig VII
Illus 148

390 (727) Hinge pivot Fe

Complete, slender pivot, tall guide arm, shank tapers sharply to
tip. Length 65mm; height 53mm.
A04–0305a; L4234; X211m; DX159; C9156–9; B18 (Phase 2b),
Hall South-Occupation (13b); Phase IVb; Rig VII
Illus 148

391 (900) Hinge pivot Fe

Clenched shank, broken. Length 85mm; height 54mm.
A6592; L1456; X118m; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs
V and VI
Illus 148

392 (1393) Pivot or spike Fe

Pivot from hair-hung door? Distorted spike, top part fractured,
round section becoming square.
A04–0250; L3905; X204m; DX152; C7141–7; B53 (Phase 1),
Central Area-Occupation (3c); Phase Vb; Rig VII
Not illustrated

393 (1452) Hinge Pivot Fe

Thin shank broken, guide arm angled back. Length 40+mm;
height 43mm.
A04–0255; L4204; X205m; C7093–7; B53 (Phase 2), North
Area-Occupation (7b); Phase Vbb; Rig VII
Not illustrated

394 (1477) Hinge pivot Fe

Clenched shank. Length 80mm; height 51mm.
A04–0641; L2114; X231m; DX178; C6172–10; B50(a),
Construction-T6149/T6180; Phase IVcc–Vc(–Vdd); Rig VIII
Not illustrated

395 (1580) Hinge pivot Fe

Guide arm complete, shank broken. Shank tapers in top view.
Length 83+mm; height 42mm.
A04–0045; L3990; X167m; C7027–7; M7; Phase Vc; Rig VII
Not illustrated

396 (1617) Hinge pivot Fe

Shank broken. Length 83+mm; height 62mm.
A6549; L2192; X146m; DX127; C2770–2; MC173; Phase Vdd;
Rig V
Not illustrated

397 (2019) Hinge pivot Fe

Complete. Wear at base of guide arm. Length 111mm; height
63mm.
A?; C?; Unstratified (South/North Sectors)
Not illustrated

Hinge straps

398 (229) Hinge Fe

Broken nailed U-shaped eye from hinge. Eye distorted, pulled
away. Length 117mm; width 34mm.
A10253; L1048; X141m; DX122; C2611–3; M1.2, Pit 2648; Phase
<IIg(IIh); Rig VI
Illus 148

399 (282) Strap Fe

Scrolled terminal from hinge. Length 110+mm; width 15mm;
thickness 3mm.
A8850; X102m; D102, DX106; C2597–3; M1.3; Phase III;
Rig VI
Illus 148

400 (375) Hinge Fe

Strap with perforated terminal. Length 87+mm; width 30mm.
A8182; L0936; C2259–4; M1.4a(b); Phase IIIa–IVa; Rig VI
Not illustrated

401 (519) Hinge Fe

Strap fragment with bifurcated scrolled terminal. Overall length
22+mm; width 33+mm.
A04–0654; L2120; X232m; DX179; C7336–7; MC126, Pit 7402;
Phase IVaa,IVb; Rig VII
Not illustrated

402 (603) Hinge Fe

Hinge with nailed U-shaped eye and shaped terminal. Length
125mm; strap width 23mm.
A04–0664; L2124; X233m; C7354–7; P8.2b, Levelling; Phase
IVb; Rig VII
Illus 148

403 (1038) Hinge Fe

Scrolled terminal from hinge. D-shaped section. Length 45+mm.
A6466; L2224; X122m; DX103; C2768–2; M1.4e; Phase
IVcc(Va); Rig VI
Illus 148

404 (1216) Hinge Fe

Scrolled terminal fragment. Length 63mm.

A04–0123; L4148; X190m; D037; C7079–7; M1.5b; Phase Vaa;
Rigs VI and VII
Not illustrated

405 (1670) Hinge Fe

Shaped rear terminal in three or four fragments, from nailed
U-shaped eye of hinge. Length 59+mm.

A0945; L0270; X037; C2048–2; Unstratified; Rigs V and VI
Not illustrated

406 (1722) Hinge Fe

Scrolled terminal from hinge or binding. Length 64+mm; width
7mm.

A04–0009; L3983; X162m; D013; C7000–7–10; Unstratified;
Rigs VI–VIII
Not illustrated

407 (2017) Hinge Fe

Scrolled terminal from strap or binding, very slender. Length
30+mm; width 5mm.

A0330; L2238; X119m; C0062–5&A; Lade (4); Phase 6–12(b–e)
(North Sector)
Not illustrated

Decorative mounts and bindings**408 (500) Binding Fe**

Curved piece of triangular section with broken perforated boss
at one end and broken hook at other. Length 46+mm.

A6331; L2165; C2526A-3; MC158b; Pit 2526A; Phase IVaa; Rig V
Illus 149

409 (729) Decorative mounts on box lid Fe and wood

Wooden lid with rebate on underside at both ends. Three scrolled
straps riveted to one side and both ends. One, down turned over
edge, others less complete. All of same basic shape, with strap
splitting into bifurcate scrolled ends. Nailed through strap and
ends of scrolls. Length 330mm; width 75–90mm; thickness
11mm. See also Fascicule 1, The excavation, 66, illus 72 and
this Fascicule, Curteis and Morris, Wood Cat No 312.

A05–0098; L0519; C9156–9; B18 (Phase 2b), Hall
South-Occupation (13b); Phase IVb; Rig VII
Illus 174

410 (914) Binding strip Fe

Strip with large round perforated terminal. Incompletely forged
strip, only terminal completed. Length 117mm.

A5523b; L2260; X113m; DX094; C2190A-4; M1.4b; Phase
IVb–IVcc; Rigs V and VI
Illus 149

411 (1439) Binding Fe

Broken moulded binding strip with shaped terminal with
perforation. Grooved surface decoration with tinning overall.
Length 84+mm; width 6–10mm.

A04–0173; L4155; X196m; DX144; C7093–7; B53 (Phase 2),
North Area-Occupation (7b); Phase Vbb; Rig VII
Illus 149

Staples: U-shaped**412 (46) Staple Fe**

U-shaped staple, one arm broken. Length 59mm; width 28mm.
A7345; L1436; C3625–2; M14b(b), Pit 3625; Phase Ie; Rig VI
Not illustrated

413 (48) Staple Fe

U-shaped staple, both arms broken. Length 24+mm; width
25mm.

A7347; L3893; C3631–2; M14b(c); Phase Ie, If; Rig V
Not illustrated

414 (227) Staple Fe

U-shaped staple, complete, slender. Length 52mm; width 25mm.
A10049; L1040; X088m; D123, DX077; C2611–3; M1.2, Pit 2648;
Phase <IIg(IIh); Rig VI
Illus 149

415 (269) Staple Fe

U-shaped staple, complete, arms distorted. Length 42mm; width
21mm.

A9896b; L0972; X148m; C2462C-3; M1.3; Phase IIi; Rig VI
Illus 149

416 (297) Staple Fe

U-shaped staple, substantial, arms broken. Length 20+mm;
width 34+mm.

A04–0656; L2121; X231m; DX178; C9479–9; B19 (Phase 2a),
North Room-Floor (1); Phase IIIb; Rig VII
Not illustrated

417 (326) Staple Fe

U-shaped staple, one arm broken. Length 63+mm; width 29mm.
A04–0434; L0627; C9246–9; P8.1c; Phase IIIc; Rig VII

Not illustrated

418 (327) Staple Fe

U-shaped staple, both arms stepped and broken. Probably from
jamb or padlock. Length 63+mm; width 52mm.

A04–0440; L0633; C9246–9; P8.1c; Phase IIIc; Rig VII
Not illustrated

419 (386) Staple Fe

U-shaped staple arm fragment. Length 63+mm.

A8848a; L1473; X113m; DX094; C2528–3; P2.2b; Phase IVa;
Rig V
Not illustrated

420 (388) Staple Fe

U-shaped staple arm. Length 65mm; width 20+mm.

A8849; L1474; X126m; DX107; C2528–3; P2.2b; Phase IVa;
Rig V
Not illustrated

421 (474) Staple Fe

U-shaped staple, complete, distorted. Length 54mm; width
20mm.

A04–0492; L1255; C9331–9; B18 (Phase 1b), North Room-Floor;
Phase IVa, IVaa; Rig VII
Not illustrated

422 (510) Staple Fe

U-shaped staple, one arm broken. Length 60mm; width 28mm.
A04–0670; L2130; X234m; C6178–10; MC131; Phase <IVa–IVb;
Rig VIII
Not illustrated

423 (593) Staple Fe

U-shaped staple, arms broken and distorted. Length 51+mm;
width 34mm.
A04–0619; L1155; C7335–7; M1.4f; Phase IVc; Rig VI
Not illustrated

424 (617) Staple Fe

U-shaped staple arm. Length 63+mm; width 14+mm.
A04–0380; L0587; C9198–9; B18 (Phase 2a), Hall/Hall
South-T9198; Phase IVb; Rig VII
Not illustrated

425 (643) Staple Fe

U-shaped staple, one arm broken. Length 62mm; width 26mm.
A04–0339; L0560; C9165–9; B18 (Phase 2a), North Room and
Hall-Construction (1); Phase IVb; Rig VII
Illus 149

426 (675) Staple Fe

U-shaped staple, arms broken. Length 37mm; width 28mm.
A? (wrongly recorded as A04–0583a); C?; Unstratified (North/
South Sectors)
Not illustrated

427 (736) Staple Fe

U-shaped staple, both arms broken. Length 45+mm; width
25mm.
A04–0561; L1207; C6162–10; M9b(a); Phase IVc; Rig VIII
Not illustrated

428 (756) Staple Fe

U-shaped staple, arms broken. Length 55+mm; width 24mm.
A9505a; L0984; X085; D113, D114, D115, DX074; C2530–3;
MC155, Pit 2691; Phase IVb, IVc; Rig V
Not illustrated

429 (776) Staple Fe

U-shaped staple, complete. Length 52mm; width 23mm.
A6341; L2173; X088m; D067, DX077; C2476–3; M1.4d; Phase
IVb, IVc; Rig VI
Not illustrated

430 (852) Staple Fe

U-shaped staple, both arms broken. Length 27+mm; width
19+mm.
A5508; L2248; X122m; DX103; C2462A-3; M1.4c; Phase
IIIa–IVcc; Rigs V and VI
Not illustrated

431 (876) Staple Fe

U-shaped staple, both arms broken. Length 24+mm; width
20+mm.
A6343; L2175; C2462A-3; M1.4c; Phase IIIa–IVcc; Rigs V and VI
Not illustrated

432 (911) Staple Fe

U-shaped staple, slender, arms distorted. Length 45mm; width
19mm.
A5215; L0159; C2190A-4; M1.4b; Phase IVb-IVcc; Rigs V
and VI
Not illustrated

433 (932) Staple Fe

U-shaped staple, one arm broken. Length 43+mm; width 20mm.
A04–0134; L4140; D060; C9021–9; P8.3; Phase IVc, IVcc;
Rig VII
Not illustrated

434 (1031) Staple Fe

U-shaped staple, one arm broken. Length 58mm; width 25mm.
A4487b; L0100; C2456–3; M1.4e; Phase IVcc(Va); Rig VI
Not illustrated

435 (1033) Staple Fe

U-shaped staple, both arms broken. Length 34mm; width 24mm.
A6524; L2214; C2456–3; M1.4e; Phase IVcc(Va); Rig VI
Not illustrated

436 (1077) Staple Fe

U-shaped staple, arm tips broken. Length 57mm; width 30mm.
A6470; L2222; C2423–3; MC165, Pit 2465; Phase Va(VI); Rig V
Not illustrated

437 (1084) Staple Fe

U-shaped staple, one arm broken. Length 50mm; width 30mm.
A04–0394; L0601; NX1; C7185–7; P8.4; Phase Va; Rig VII
Not illustrated

438 (1259) Staple Fe

U-shaped staple, arm distorted. Length 49mm; width 20mm.
A04–0359; L0572; C7169–7; M1.5b; Phase Vaa; Rigs VI and VII
Illus 149

439 (1329) Staple Fe

U-shaped staple, both arms broken. Length 32+mm; width
28mm.
A04–0120; L4160; X190; D034; C9012–9; M8a; Phase Va, Vaa;
Rig VII
Not illustrated

440 (1861) Staple Fe

U-shaped staple, both arms broken, lozenge-shaped section.
Length 58+mm; width 35mm.
A1398a; L0116; C0206–5; Garden 2; Phase 17 (North Sector)
Not illustrated

441 (1927) Staple Fe

U-shaped staple, arms broken. Possibly chain link fragment?
Length 30+mm; width 30mm.
A6465b; L2225; C1065–6; Lade, Fill; Phase C–F (North Sector)
Not illustrated

442 (1984) Staple Fe

U-shaped staple, one arm broken. Length 92mm; width 29+mm.
A1796b; L4244; C1029–6; Unstratified; Phase K (North Sector)
Not illustrated

443 (2020) Staple Fe

U-shaped staple, one arm broken, lozenge shaped section.
Length 63mm; width 25mm.
A0542d; L0238; C0081–5&A; Lade (4); Phase 6–12(b–e) (North Sector)
Illus 149

444 (2021) Staple Fe

U-shaped staple or possible chain link fragment or hasp, both arms broken. Length 45+mm; width 27+mm.
A?; C?; Unstratified (North/South Sectors)
Not illustrated

Staples: rectangular**445 (27) Staple Fe**

Rectangular staple with inturned arms, distorted. Length 45+mm; width 20mm.
A11065; L1024; X147m; DX128; C5079–3; MC031, Pit 5096;
Phase Ia–Id; Rig V
Not illustrated

446 (396) Staple Fe

Rectangular staple with clenched arms, complete. Length 18mm; width 33mm.
A7991; L1441; X117m; C2513–3; MC144, WW2221; Phase <IIId–IVaa; Rigs V/VI
Illus 149

447 (596) Staple Fe

Rectangular staple, with inturned, probably originally clenched arms. Length 20mm; width 47mm.
A04–0683; L2140; C7350–7; P8.2b; Phase IVb; Rig VII
Not illustrated

448 (1306) Staple Fe

Rectangular staple with inturned clenched arms, one lost. Length 54mm; width 38+mm.
A04–0382; L0589; C7172–7; M8a, T7193; Phase Va,Vaa;
Rig VII
Not illustrated

449 (1310) Staple Fe

Rectangular staple with inturned arms, distorted. Length 23mm; width 58mm.
A04–0328; L0549; C7175–7; M8a, Pit 7183; Phase Va,Vaa;
Rig VII
Not illustrated

450 (1422) Staple Fe

Rectangular staple with inturned clenched arms, slender. Length 23mm; width 37mm.
A04–0095; L4151; X188m; D075; C7071–7; B53 (Phase 2),
South Area-Occupation (7a); Phase Vbb; Rig VII
Illus 149

451 (1438) Staple Fe

Rectangular staple with inturned arms, both broken. Length 25+mm; width 44mm.
A04–0186; L4082; C7093–7; B53 (Phase 2), North

Area-Occupation (7b); Phase Vbb; Rig VII

Not illustrated

452 (1801) Staple Fe

Rectangular staple, both arms broken. Length 48mm; width 57mm.
A5430; L2240; C0239–5; CG020; Phase 12 (North Sector)
Not illustrated

453 (1810) Staple Fe

Rectangular staple, one arm broken. Length 98+mm; width 28+mm.
A11663a; L1034; X014; D149, DX014; C0218–5; Garden 1;
Phase 15 (North Sector)
Not illustrated

454 (1865) Staple Fe

Rectangular staple with down-turned arm, broken. Length 33mm; width 19mm.
A? (wrongly recorded as A1398e); C?; Unstratified (South/North Sectors)
Not illustrated

455 (2022) Staple Fe

Rectangular staple, fragment. Length 17+mm; width 33+mm.
A?; C?; Unstratified (North/South Sectors)
Not illustrated

Miscellaneous fittings**456 (1) Bar Fe**

Spirally twisted bar with flattened riveted terminals. Length 136mm.
A10762; L1011; X088m; D137, DX077; C3867–1; MC002; Phase Ia;
Rigs V and VI
Illus 149

457 (181) Rod Fe

Distorted length of spirally twisted rod, broken. Length 280+mm.
A9514; L0979; C2333–4; M10; Phase IIId–IIg; Rig V
Not illustrated

458 (589, 590) Sheet Fe

Two fragments with curved edges, one with two nails close to the edge. Dimensions 98mm by 69mm; 104mm by 74mm.
A04–0616a,b; L1157; X228m; DX175; C7331–7; M1.4f; Phase IVc;
Rig VI
Not illustrated

459 (676) Fitting Fe

U-shaped fitting with outturned ends. Width 49mm; height 26mm.
A04–0583; L1187; C7311–7; B18 (Phase 2a), External (1)-Pit 7314;
Phase IVb; Rig VII
Not illustrated

460 (714) Sheet Fe

Incomplete sheet held by two nails, possibly horseshoe nails (Type G). Length 116mm; width 62mm.
A04–0284; L3999; X208m; DX156; C9132–9; B18 (Phase 2b),
North Room, Hall and Hall South-Occupation (10); Phase IVb;
Rig VII
Illus 149

461 (1201) Washer Fe

Circular flat perforated disc. Diameter 20mm; thickness 2mm.
A10741; L0892; C2404–3; M1.5a; Phase Va,Vaa(VI); Rigs V and VI
Not illustrated

462 (1261) Looped spike Fe

Broken spike with expanded thickened and looped end.
Incompletely forged. Length 125+mm.
A04–0360b; L0573; NX8; C7169–7; M1.5b; Phase Vaa; Rigs VI and VII
Not illustrated

463 (1262) Socket Fe

Damaged socket, made from rolled sheet, tapering towards one end. Diameter 18–36mm
A04–0361; L0574; C7169–7; M1.5b; Phase Vaa; Rigs VI and VII
Not illustrated

464 (1447) Collar Fe

Oval with overlapping ends. 23mm by 20mm; width 6mm.
A04–0190; L4093; C7093–7; B53 (Phase 2), North Area-Occupation (7b); Phase Vbb; Rig VII
Not illustrated

465 (1577) Cramp Fe

Broken, substantial L-shaped fragment. Length 34+mm; height 22+mm; thickness 6mm.
A04–0037b; C7027–7; M7; Phase Vc; Rig VII
Not illustrated

466 (1665) Collar Fe

Circular tube, one side damaged. Diameter 30mm; width 25mm.
A04–0187b; L3973; X199m; DX147; C7014–7/9; Modern, T7014, D7014; Phase VI; Rig VII
Not illustrated

467 (1739) Washer Fe

Circular flat perforated disc. Diameter 22mm, Thickness 2mm–3mm.
A04–0027; L3964; X162; D009; C7000–7–10; Unstratified; Rigs VI–VIII
Not illustrated

Miscellaneous straps and binding strips**468 (85) Strip Fe**

Broken length of curved strip. Length 120+mm; width 8mm.
A1797a; L0178; X150m; DX131; C3039–1; M14a, Pit 3040; Phase Id-Ilc; Rig V
Not illustrated

469 (59) Strip Fe

Broken, riveted join. Length 73+mm; width 15mm.
A12497; L0945; NX1; C5105–3; MC053c; Phase If; Rig VI
Not illustrated

470 (199) Strip Fe

Broken strip, perforated. Length 48+mm; width 8mm.
A10054; L1042; X015; DX015; C2341–4; B12, Floor (1); Phase Ile-Ilg; Rig VI
Not illustrated

471 (218) Strip Fe

Broken strip. Length 39+mm; width 6mm.
A9101d; L4038; X106; DX090; C2611–3; M1.2, Pit 2648; Phase <Ilg(Ilh); Rig VI
Not illustrated

472 (221) Strip Fe

Distorted strip. Length 187mm; width 6mm.
A11209; L2293; X120m; C2611–3; M1.2, Pit 2648; Phase <Ilg(Ilh); Rig VI
Not illustrated

473 (242) Strip Fe

Broken and distorted strip with hole at each end. Length 28+mm; width 4mm.
A8837; L1463; C2289–4; M11; Phase Ilh; Rigs V and VI
Not illustrated

474 (288) Strip Fe

Broken, including riveted join. Length 140+mm; width 13mm.
A9047; L2269; X114m; DX095; C2603–3; M1.3; Phase Ili; Rig VI
Not illustrated

475 (313) Strap Fe

Broken across rivet hole at one end. Length 113+mm; width 17mm.
A8066b; X128; DX109; C2527B-3; MC117, Pit 4695; Phase Ile–Illc; Rig V
Not illustrated

476 (399) Strap Fe

Broken strap fragment. Length 87+mm; width 47mm.
A7923; L1442; X131m; DX112; C2560–3; P2.2a and P2.3a; Phase IVa,IVaa; Rig V
Not illustrated

477 (402) Strip Fe

Broken strip, with two square perforations, one end distorted. Length 73+mm; width 8mm.
A5133; L0145; X137m; DX118; C2508–3; P2.3a; Phase IVaa; Rig V
Not illustrated

478 (515) Strap Fe

Perforated strap, one end complete. Length 87+mm; width 30mm.
A04–0642b; L2504; X232m; DX179; C7336–7; MC126, Pit 7402; Phase IVaa,IVb; Rig VII
Not illustrated

479 (529) Strap Fe

Tapering length, two nail holes. Length 80+mm; width 12mm–23mm.
A04–0652; L2119; X232m; DX179; C7342–7; MC126, Pit 7402; Phase IVaa,IVb; Rig VII
Not illustrated

480 (532) Strip Fe

Length 46mm; width 19mm.

A04–0675; L2135; X233m; C7342–7; MC126, Pit 7402; Phase IVaa, IVb; Rig VII

Not illustrated

481 (533) Strip Fe

Fragment. Length 67+mm; width 17mm.

A04–0690; L2145; C7342–7; MC126, Pit 7402; Phase IVaa, IVb; Rig VII

Not illustrated

482 (575) Strap Fe

Fragment. Length 76+mm; width 18mm.

A04–0704b; L2158; C7294–7; M1.4f; Phase IVc; Rig VI

Not illustrated

483 (576) Strap Fe

Fragment. Length 46+mm; width 19mm–21mm.

A04–0704c; L2158; C7294–7; M1.4f; Phase IVc; Rig VI

Not illustrated

484 (577) Strap Fe

Overlapping lengths, joined by two rivets. Length 48+mm; width 18mm.

A04–0704d; L2158; C7294–7; M1.4f; Phase IVc; Rig VI

Not illustrated

485 (578) Strap Fe

Fragment. Length 34+mm; width 16mm.

A04–0704e; L2158; C7294–7; M1.4f; Phase IVc; Rig VI

Not illustrated

486 (591) Strip Fe

Sharply angled strap with perforated terminal. Length 90mm; width 12mm.

A04–0618a; L1156; C7335–7; M1.4f; Phase IVc; Rig VI

Not illustrated

487 (592) Strip Fe

Broken, curving. Length 106mm; width 14mm.

A04–0618b; L1156; C7335–7; M1.4f; Phase IVc; Rig VI

Not illustrated

488 (612) Strap Fe

Broken, curving strip with three nail holes. Length 70+mm; width 18mm

A04–0573b; L1196; X216; DX153; C7308–7; B18 (Phase 2a and 2b), WW7308; Phase IVb; Rig VII

Illus 149

489 (626) Strip Fe

Fragment. Length 34+mm; width 17mm.

A04–0566a; L1201; X217m; DX164; C7306–7; B18 (Phase 2a), North Room and Hall–Construction (1); Phase IVb; Rig VII

Not illustrated

490 (670) Strip Fe

Broken. Length 194+mm; width 15mm.

A04–0575; L1194; C7311–7; B18 (Phase 2a), External (1), Pit 7314; Phase IVb; Rig VII

Not illustrated

491 (701) Binding Fe

Curved strip of triangular section, one end down-turned, other broken. Length 208+mm; width 7mm.

A04–0550; L1213; C7298–7; B18 (Phase 2b), North Room, Hall and Hall South–Occupation (10); Phase IVb; Rig VII

Illus 149

492 (735) Binding Fe

Curved strip of triangular section, both ends broken, one downturned. Length 193+mm; width 7mm.

A04–0635; L1146; C6169–10; MC153; Phase IVb; Rig VIII

Illus 149

493 (758) Strap Fe

Broken, with one nail hole. Length 61+mm; width 20mm.

A9505c?; L0984; X085; D113, D114, D115, DX074; C2530–3; MC155, Pit 2691; Phase IVb, IVc; Rig V

Not illustrated

494 (824) Strip Fe

Broken and distorted strip. Length 58+mm; width 12mm.

A4484; L0097; C2462A–3; M1.4c; Phase IIIa–IVcc; Rigs V and VI

Not illustrated

495 (825) Strip Fe

Distorted and incomplete strip, partly triangular in section.

Length 47+mm; width 7mm.

A4485; L0098; C2462A–3; M1.4c; Phase IIIa–IVcc; Rigs V and VI

Not illustrated

496 (844) Strip Fe

Shaped terminal with hole, broken. Length 109+mm; width 12mm.

A13003; L2333; X146m; DX127; C2462A–3; M1.4c; Phase IIIa–IVcc; Rigs V and VI

Not illustrated

497 (865) Strip Fe

Broken nailed strip. Nail with rectangular head and broken shank. Strip: length 15mm, width 9mm; nail: length 29mm.

A6228 (object not recorded in finds registers); C?; Unstratified (South/North Sectors)

Not illustrated

498 (959) Strap Fe

Broken. Length 73+mm; width 26mm.

A04–0533; L1222; C7273–7; M9a; Phase IVc, IVcc; Rig VII

Not illustrated

499 (1089) Strip Fe

Broken fragment. Length 25+mm; width 17mm.

A04–0406; L0608; C7185–7; P8.4; Phase Va; Rig VII

Not illustrated

500 (1110) Strip Fe

Broken length, expanded at one end with rivet in place. Length 95+mm; width 14mm.

A04–0461b; L0650; NX1; C7186–7; P8.4; Phase Va; Rig VII
Not illustrated

501 (1158) Strip Fe

Broken curving strip with perforated terminal. Length 206+mm, width 10mm.

A10736; L0890; X125m; C2189–4; M1.5a; Phase Va,Vaa; Rigs V and VI
Not illustrated

502 (1225) Strap Fe

Broken perforated strap. Length 86+mm; width 23mm.

A04–0143; L4175; X194m; D063; C7079–7; M1.5b; Phase Vaa; Rigs VI and VII
Not illustrated

503 (1326) Strap Fe

Broken length, perforated both ends. Length 93mm; width 14mm.

A04–0443; L0636; C7205–7; M8a, T7206; Phase Va,Vb; Rig VII
Not illustrated

504 (1449) Strap Fe

Broken strip. Length 54+mm; width 20mm.

A04–0197b; L4202; X200m; DX148; C7093–7; B53 (Phase 2), North Area-Occupation (7b); Phase Vbb; Rig VII
Not illustrated

505 (1534) Strap Fe

Broken large strap with part of eye. Length 85+mm

A? (wrongly recorded as A6464a); C?; Unstratified (South/North Sectors)
Not illustrated

506 (1564) Strap Fe

Broken. Length 92+mm; width 18mm.

A4480; L0094; X128m, NX11?; DX109; C2186–4; M3a; Phase Vb–Vc; Rigs V and VI
Not illustrated

507 (2018) Strap Fe

Broken. Two overlapping lengths joined by two rivets. Length 61+mm; width 17mm.

A?; C?; Unstratified (South/North Sectors)
Not illustrated

508 (2032) Strip Fe

Broken strip. Length 82mm; width 16mm.

A8478c; L0914; C2476–3; M1.4d; Phase IVb,IVc; Rig VI
Not illustrated

509 (1067) Strip Fe

Broken strip. Length 51+mm; width 7–12mm.

A04–0405; L0607; C7191–7; B34, 'Courtyard'; Phase Va; Rig VI
Not illustrated

510 (1092) Strip Fe

Two broken pieces. Length: a) 45+mm, b) 50+mm; width (both) 7mm.

A04–0414; L0614; NX1; C7185–7; P8.4; Phase Va; Rig VII
Not illustrated

511 (1160) Strip Fe

Strip, broken, curved towards one end. Length 69+mm; width 10mm.

A1169b; L0123; NX1; C2404–3; M1.5a; Phase Va,Vaa(VI); Rigs V and VI
Not illustrated

512 (1180) Strip Fe

Broken strip. Length 39+mm; width 15mm.

A3293; L0202; X044m; DX035; C2404–3; M1.5a; Phase Va,Vaa(VI); Rigs V and VI
Not illustrated

513 (1254) Strip Fe

Broken strip, one end broken at perforation. Length 50mm; width 12mm.

A04–0343; L0564; C7169–7; M1.5b; Phase Vaa; Rigs VI and VII
Not illustrated

514 (1290) Strip Fe

Broken strip. Length 90+mm; width 7mm.

A04–0276; L4415; X208m; DX156; C7161–7; M8a; Phase Va,Vaa; Rig VII
Not illustrated

515 (1291) Strip Fe

Broken strip. Length 156mm; width 6mm.

A04–0281; L4001; C7161–7; M8a; Phase Va,Vaa; Rig VII
Not illustrated

516 (1298) Strip Fe

Broken strip, folded in two. Length 98+mm; width 8mm.

A04–0309; L4242; X212m; DX160; C7163–7; M8a; Phase Va,Vaa; Rig VII
Not illustrated

517 (1555) Forging? Fe

Broken strip, possibly incompletely forged. Length 100+mm.

A13000; L3881; X137m; C2179–4; M3a; Phase Vb–Vc; Rigs V and VI
Not illustrated

518 (2033) Strip Fe

Riveted join between two overlapping strips, two rivets in middle of strip, broken both ends. Length 70mm; width 18mm.

A5523a; L2260; C2190A–4; M1.4b; Phase IVb–IVcc; Rigs V and VI

Not illustrated

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