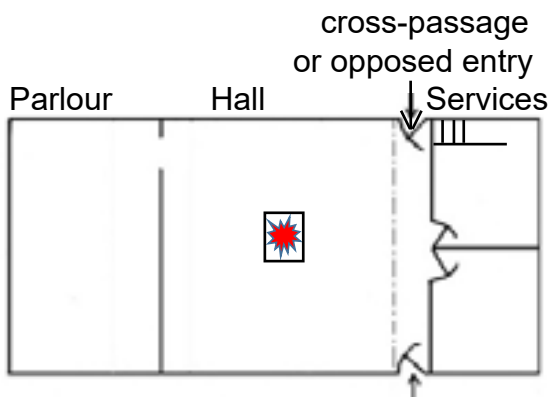


# Norfolk Historic Buildings Group - Building Notes

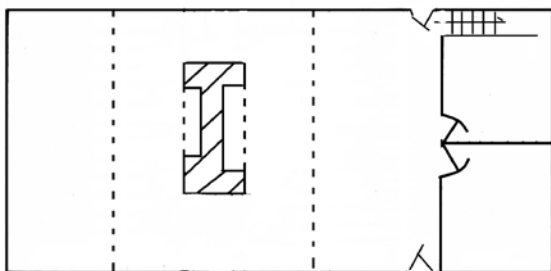
A photographic glossary of examples of features found in Norfolk Houses that have been surveyed by the NHBG

## Common Norfolk Floorplans

There are countless survivals of the three-celled floorplan in Norfolk. Slight differences can identify their origin/history.

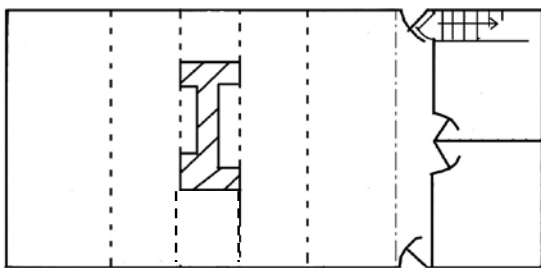


Open Hall - central hall open to the roof, two storeys at either end. Open fire in centre of hall - up to c1550



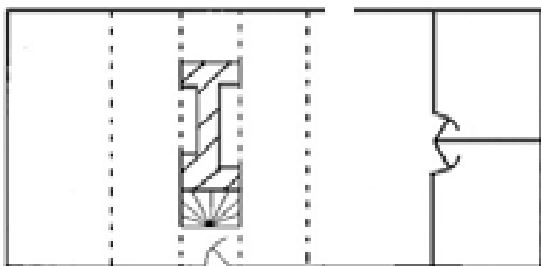
Adapted open hall with inserted chimney and floors.

Note - no principal joists flanking the chimney. A typical sign that the chimney has been inserted



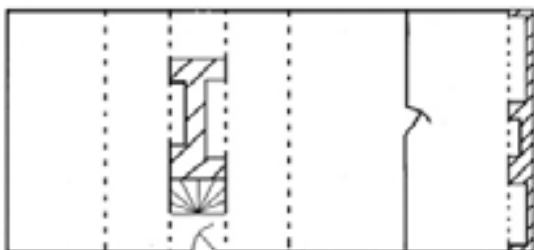
Opposed entry with two floors throughout and original chimney - c1500-1600, more commonly 1550-1600

Note - principal joists flanking the chimney

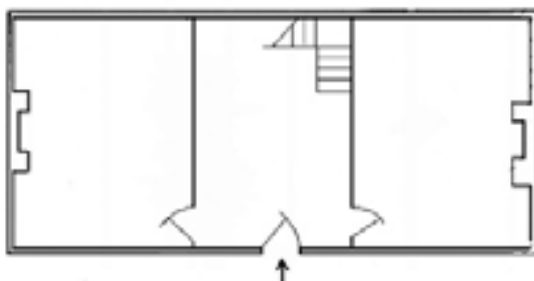


Lobby entry with two floors throughout and original chimney c1580-c1670, stairs adjacent to, or opposite, the stack

Frequently updated from previous example, leaving evidence of original opposed-entry doors

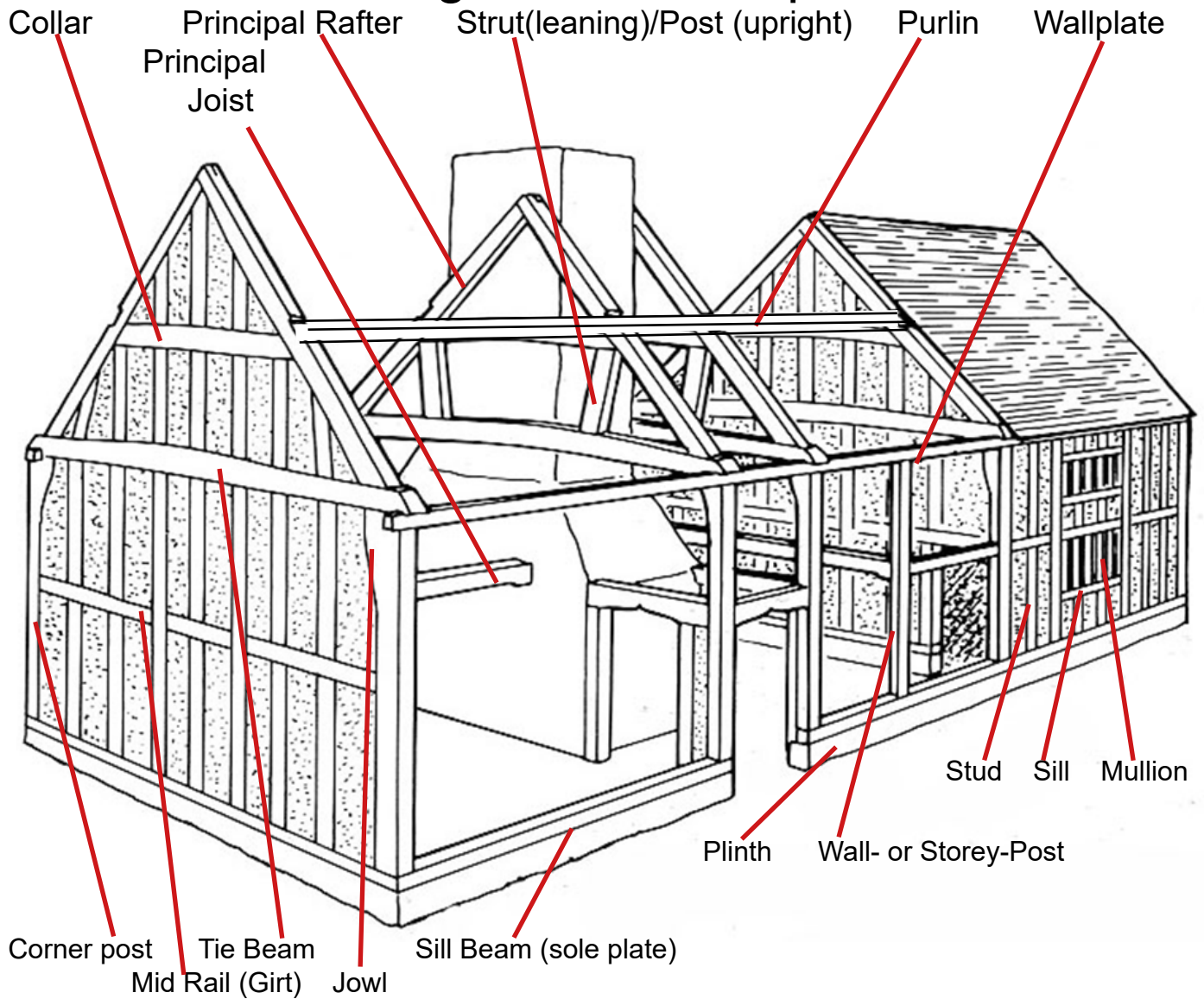


Lobby entry with added gable- end chimney - c1600 on, removing the service rooms - usually an adaptation of one of the previous two layouts



Symmetrical house - unheated central bay - c1650 on, later examples usually brick built. Some early examples with brick gables and timber frames

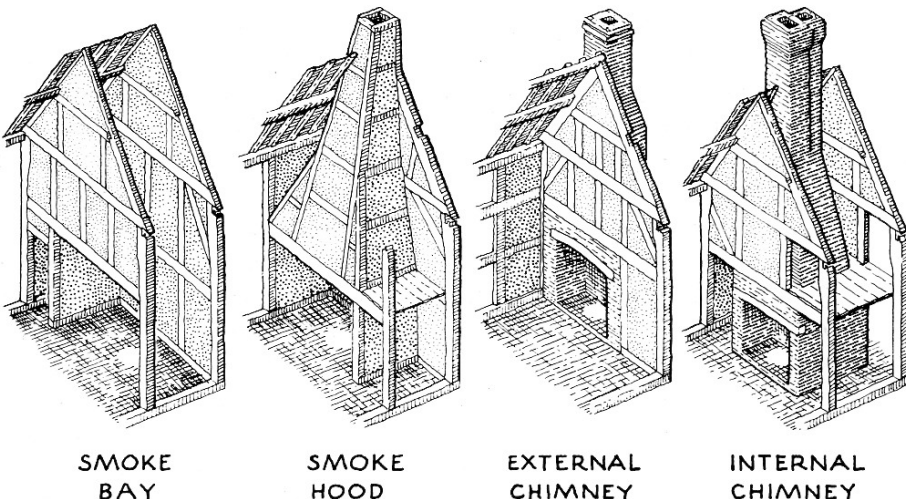
# Naming some of the parts



## Timber-framed chimneys

The textbooks tell us that there was a period between the open-hall house and the two-storey house with a brick chimney, where some houses had smoke bays or timber-framed chimneys, usually said to be between 1500 and 1550. Not quite that simple - the Hempnall survey showed that at least 2 open-hall houses were built with smoke bays, perhaps as early as 1450.

The Tacolnston study showed that two-storey houses were still being built in 1645 with timber-framed chimneys (dendro). Several were found, each of which had had a later brick chimney built inside the original timber framing. Whether this was a cost issue (expensive bricks at the time) or another reason is unknown.



External stacks are unusual in East Anglia.

Hempnall Houses - NHBG Journal 7  
Tacolnston Study - NHBG Journal 4

Chimneys Drawing Source:  
Harris R., Discovering Timber-Framed Buildings, Shire, 1993.

# Differences and Dating aids

Certain features and techniques can be roughly dateable; if not an exact date, then a general impression of a sequence.

## Timber Framing

### 15-17C Studding



### 15-17C Braces



#### Close Studding (15-17C)

Closer = earlier or wealthier (or both)

The image above left is particularly close - could be pre 1500.

External walls are usually closer studded than internal walls - for structural reasons.

Downstairs walls are usually closer studded than first floor walls - for display reasons

#### Braces (15-17C)

Continuous braces, but lapped into the studs, which are also continuous, either in front of or behind them.

(far left) Cranked (centre) Arched, (right) Inverted arch or 'swag'

In Norfolk, where the timber framing is usually rendered over externally, the braces are normally inside the studs. In Essex and South Suffolk, the braces are usually external to the studs as they not rendered over, so are on the outside to be seen.



#### 18C Timber framing (left) Slight studs

Primary Bracing - Unlike earlier bracing, 18C bracing has continuous braces and the studs are interrupted, and are often offset above and below the brace.

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## Timber preparation

Timber can be cut with a side-axe, or sawn, either over a pit, or on trestles, The side-axe leaves shallow scallops. The pit-sawn timber has saw marks almost at rightangles to the timber (centre), whereas trestle saw cuts are at around 45°. Not strictly dateable as it depends on the carpenter, but axe-cut would normally be earlier, pit-sawn timber normally later and and trestle-sawn latest.



The scalloped effect of side-axe-prepared timber.



The almost vertical saw marks of pit sawing.



The angled saw marks of trestle-sawing, with a rarely-seen snap mark where the cuts met in the centre.

# 1 Windows and Shutters

Glazing did not become common until early in the 16C in high status buildings, say middle 16C to 1600 in yeoman-type buildings and later still in smaller lower-status houses. It is not uncommon to find some glazed and some unglazed windows in the same house.

**Unglazed windows** had diamond-shaped mullions



A sliding shutter used to keep out the weather (this one dendro-dated to 1615). The grooves they slid in extend to one side of the window by the width of the window. The grooves were either made in the mid-rail or wall-plate (centre), or as a rebate (right) which was covered by another piece of wood to form the groove.

**Glazed windows** had mullions with a rebate for the glass to sit in, either a similar shape to the diamond mullion, or later different moulded shapes known as ogee or ovolo.



The empty mortices (right) are shaped for glass but the shutter rebate can be seen next to the curtain rail. Shutters continued to be used even after glass became common, perhaps just as curtains, so the presence of a shutter does not mean unglazed necessarily.



## Casement windows

started in the late 17/early 18C, often with an iron opening light in the centre.



## Sash Windows

From late 17C on, initially the sash boxes were flush with the wall (left). After 1770 in London, the sash boxes were set in rebates for fire prevention (right) - slightly later in the countryside. Initially, glazing bars were thick, becoming thinner in the later 18C.

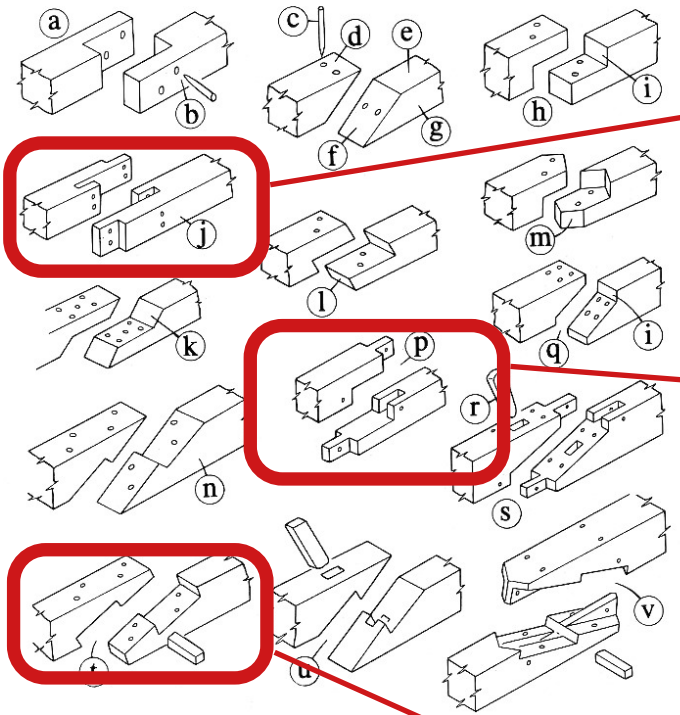


After about 1850, the top and bottom sash frames had horns (extensions to side rails to strengthen the joints),

## 2 Scarf Joints

Used to join timbers end to end in situations where there is no tension, such as sole-plates and wall-plates. Their shape varied as time went on becoming simpler and simpler. Dates cannot be accurately ascribed, but there are date ranges which can be applied.

### 29 – Scarf joints



Face-halved scarf  
1550 on



Edge-halved and bridled scarf.  
Long halving, short bridle and single peg (left)  
1400-1600

Short halving, longer bridle and 2 pegs (right)  
1500-1600



Source: Recording Timber-Framed Buildings, CBA Practical Handbook 5, Alcock et al, CBA 1996



Splayed and under-squinted scarf .  
Up to 1600, little used after 1500

## 3 Joists

Like studding, close joists were a form of display, showing wealth.

Joists were laid flat up to around 1600, earlier ones were often installed very close together. After c1600, joists were mostly laid on edge (like modern joists) as smaller-section timbers can provide the same strength.



Laid flat, closely, C1500,  
-Litcham



Laid flat, wider apart c1580,  
Hempnall



Laid on edge c1700  
Kenninghall

# 4 Roofs

## Medieval roof types - Common-rafter roofs



(left) Crown Post roof - before c1500. Higher status - meant for display in the roof of an open hall (the side purlins here are later insertions), or in upper chambers. If smoke blackened - open hall, if clean (as left) open from a first-floor chamber.



above) Queen Post roof - before c1550, a few until 1650. Used above open halls, but also in roofs above ceilings

Both of these roofs are “common rafter” types, where all the rafters are the same size, and the purlins support each one.

## Principal-rafter roofs



A development was the use of principal rafters. Every 5th or 6th rafter was larger than the common rafters and had purlins morticed into them to support the smaller common rafters in between - saving timber.

The purlins can be set end to end (as the image left) known as in-line butt purlins, or they can be offset, known as staggered purlins (right). This makes a stronger joint as the tenons can be the full width of the principal

rafter rather than having to meet in the middle.



One way to avoid the short tenons of butt purlins was to “thread” them. so they overlap. Either one above the other (left) or one behind the other (right). Oak was the predominant timber used, although elm is used as well for principal rafters. Common rafters may be more rustic, sometimes just ash poles. Pine became more common in the 18C and can usually be seen to be sawn square

By the 18C, rather than have a normal stepped tenon cut on the end, the end of the purlin was “shaved” or chamfered to fit into the mortice.

## Collars & braces

Collars are used to prevent the roof from sagging under its weight, by running across the roof between the principal rafters, so that each supports the other.

The earlier form is a “clasping” collar, where the collar is notched at the top to support the purlin. This type was used from c1475 until c1600. The principal rafter above this point is often reduced in thickness, known as a diminished principal (right), where the principal rafter shrinks to the size of the common rafters next to it.

After about 1575, collars were morticed at various points into the principal rafters without impinging on the purlins.

One of the benefits of the principal rafter roof is the increased space available in the roof space, often further improved with arched collars. Windbraces are frequently used to prevent the roof “racking” under pressure from the wind



## 5 Apotropaic marks (aka Ritual Protection Marks)

### Taper burns

Found in most houses, taper burns are usually considered to be marks to ward off evil spirits. They stem from a time of religious upheaval and mixed beliefs, as well as a profound fear of evil and witches. They are usually found adjacent to openings where spirits might enter - fireplaces, windows and doors.

Experiments have recently been done that have established that a concerted effort is required to form them - many applications of the flame, scraping out the char between applications, in order to deepen the burn, as the carbonised timber does not burn. The earlier explanation of accidental burning has been shown not to work. In addition, there are single marks exactly in the centre of mantle beams, like the one in Yew Tree Farm in Hempnall - below, unlikely to be an accident.

Other groups of burns are found in bedchambers, such as the three below, suggesting perhaps some form of fertility aid. Examples have also been found in other situations, such as on wine presses - perhaps blessing the product - and on a roof timber after assembly - possible fire protection?



Multiple marks in bedroom situations -

Purlin in Rowan Cottage, Langham,  
(beneath the sloping ceiling)

Tie beam in Home Farm Hempnall

Bedroom wall in College Farm,  
Thompson



Victorian attempt to  
remove mark with a  
spurious peg



multiple marks adja-  
cent to an ex- doorway  
in Poacher's Cottage,  
Hempnall



(above) 27 marks on mantle in Priory  
Cottage, Hempnall



single central mark in the  
centre of the mantle at Yew  
Tree Farm, Hempnall

### Compass-drawn Daisy wheels (or Roses) and "VV" - Virgo Virginis (Virgin of Virgins)

These marks also often appear on mantle beams.

**The double V symbol** (or an inverted M) is a religious mark used from the 16C, usually thought to be a Catholic reference to Mary at a time when Catholicism was forbidden.

**The daisy wheel** was another method to trap evil spirits, with its confusing continuous lines. Usually small (c 5cm) the largest we have found is 25cm across on plaster.

Both types of marks are often very faint now and attempts were also made to remove them in Victorian times



(left & below)

Two roses at the same scale: the  
plaster one is 25cm across in the Old  
Vicarage, Hempnall; the one below is  
5cm across in Kettleton, Fornsett End



A series of faint daisies on a  
mantle in Coggeshall, Essex

## 6 Carpenters' marks

Made in the carpenter's yard to assist reassembly on site. They do not necessarily reflect the order in the house, but may reflect the order that they were made in the yard, so may be apparently out of sequence when reassembled.

Some houses have different number sequences for the corner braces and the general studs.

Most houses appear not to have marks, others have full sequences. Rarely are they seen in early houses and few in later houses, the majority seem to be found in buildings of the 50 years either side of 1600.

They can be:

scratched, III (3) chisel cut VII (7) or made with a race knife. VIII (9)



race knife



race knife with  
compass point  
for drawing  
circles

Almost always in Roman numerals (straight lines) and reflect clock numerals - IIII for 4 - rather than IV, which would not be much different from VI when viewed upside down.

To differentiate between the same numbered joints of different sides of the building, those on one side were distinguished with a small "tag". (right)



A few marks using versions of Arabic numerals involving some circular marks have been identified in other parts of the country, with only 3 sets found so far in Norfolk - Irstead church door; a single mark on the upstairs screen in Manor Farm Pulham in a roman-numeral sequence, and a pair of marks at Elm Tree Farm in Pulham (some 400m from Manor Farm)

## 7 Datestones

Many houses display datestones, or other methods of showing a date. Beware!

In many cases these have been discovered to represent a meaningful date in the lives of the residents - rather than the house itself - such as a marriage, first-born etc.

In most cases further research is required to establish whether the date refers to the building or not.

### Definitely incorrect



Beccles - 1670 is the date of this wall, not the building (1550)

### Probably correct



New Buckenham - 1820 in bottle ends

### Possibly correct



Catfield - 1557 - fits with likely construction date based on layout and other details



Pulham - 1713 date of a refit and new roof on a house of c1575



Thetford 1694 painted over freestone date



## 8 Doors

16/17C doors were usually just two simple oak planks, held together at the back with plain ledges - few survive. A development seems to have been the introduction of a narrow plank in the centre with decorative grooving either side, known as a creased three-plank door.



Two-plank door.  
Holly Farm,  
Winfarthing



simple ledging  
with no diagonal  
bracing



Three-plank creased doors  
(left) Old Vicarge Hempnall  
(right) Meadow Cottage, Alington



The use of pine for doors started in the late 18C and introduced the panelled door. Usually of 4 or 6 panels, the early doors were held together with wooden dowells through the tenoned joints. More decorative panelling appears later, with fielded (chamfered) edges to the panels.



(left) Plain 6-panelled door  
(centre) fielded panelling, with  
chamfered panel edges  
(right) raised and fielded panelling



A few examples of two medieval forms of door frame still exist. The first, known as a spandrelled door, has an often decorative infill at the top of the opening (spandrels). The second, known as a "durn" door, is where the doorframe jambs expand and arch into the door-head



Spandrelled doorway into the  
service chamber, Yew Tree Farm,  
Fornsett (often just plain)



Durn door, Wellgate Cottage,  
Ketteringham

## 9 Ballusters

Several varieties of carved ballusters on grand staircases - some turned and some sculpted. Usually in oak, but we have found one example in pine (probably later). Care has to be taken, as they were frequently moved from grand houses to smaller houses during upgrading.



17C sculpted and turned ballusters  
from Walsingham



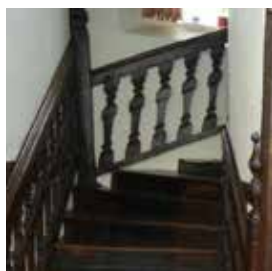
turned ballusters  
Sculpted balluster  
in pine (Faken-  
ham)



17/18C "Splat"  
balluster - many  
shapes, but just  
two dimensional



18C "barley-twist"  
balluster (Middleton)



This example from Colkirk was imported and made to fit, as the angles are wrong and the ballusters leaning.

### Finials

Newell posts are located at the foot of the stairs and at every change of direction. Sometimes they are moulded, but almost always have fancy finials on top

(right) finial - Stonegate, Walsingham  
(middle) - St David's Walsingham

far right) turned newell and finial at Willow  
House, Hempnall.



# 10 Fittings

## Hinges

The earliest hinges appear to be of the pintle type, where the strap hinge sits on a pin attached to the doorframe. Made locally by smiths, some are still found.

The strap hinge developed to have a plate fixed to the frame. Although the screw was used in houses in the 16C, most fittings were hand-made nails, probably until the end of the 18C

Other early hand-made hinges took the form of Butterfly-shape, H-shape, and L-shape. Butterfly hinges tend to be found on cupboard doors.

Later on the L shaped hinge was mass produced in the late 18C.



strap hinge on pintle



strap hinge on a plate



H shape



L shape



Cockshead



Butterfly

## Latches

The majority of the locally-made simple latches have been replaced by the ubiquitous Suffolk latch, or by modern door handles and locks. A few still exist in their simplest form of a flat plate using a staple as the pivot (right - Old Vicarage, Hempnall).



Fancy types of latch are noted in Linda Hall's seminal work on Fixtures and Fittings (Period House Fixtures and Fittings 1300-1900, Countryside Books, 2005) identified 2 similar latches to the one shown right from Lime Tree Cottage in Hempnall. They were dated 1616 and 1649, but Linda has said the date range is probably wider. This house was dendro-dated to 1559, but the lock could be later.



The sprung latch appears in Georgian times and two of the three different examples that were encountered in Hempnall are shown right.

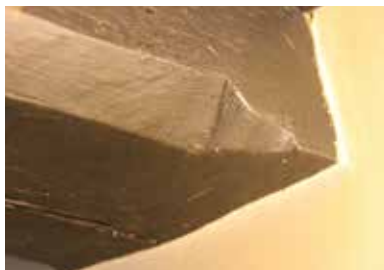


# 11 Chamfer Stops

Used to terminate the chamfers along major timbers, particularly in ceilings. Attempts are being made to standardise the terminology in use by different researchers. The older NHBG reports used terms that are being superseded, so both are noted below - some examples from Norfolk:- (The commonly seen nick after the stop is usually dated after c1620)



Stepped run-out stop (shield)



Scroll stop (lamb's tongue)



stepped runout with nick



Scroll stop (lamb's tongue) with nick



Run-out stop with bar



scroll stop with bar and nick



Leaf stop



Broach stop



Sunk-quadrant chamfer with stepped run-out



Elongated scroll stop



Fancy chamfers and stops



sunk-quadrant chamfer with fancy stop



Ogee chamfer with runout stop with bar and nick



Roll-moulded joists



Roll-moulded joists

## 12 Brickwork

### Brick Bonding

Very early (say pre 1550) brick bonds can be “what-shall-we-use-next” bond.

Bonding became standardised, with English Bond prevalent before 1650 and Flemish Bond becoming more frequently used after 1650. There are many variations of Flemish bond, some known by different names in different parts of the country



What shall we use next bond. The top two courses are not bonded at all



English bond - One course of headers (through the wall) and one course of stretchers (along the wall). Pre 1650, but used after, in places where strength is required

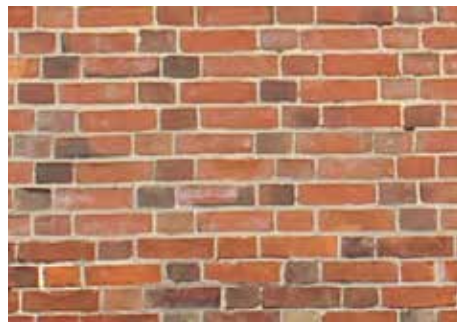


Flemish bond - almost always post 1650. Each brick has the opposite sort on every side, so headers and stretchers alternate, both horizontally and vertically

### Variations of Flemish Bond



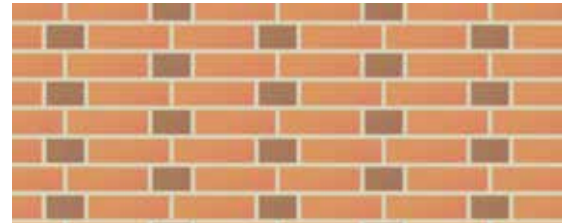
Still alternating headers and stretchers in each row, but the headers are placed above and below each other.



Diagonal Bond. A course of stretchers between each course which then forms a diamond pattern



Flemish Garden Wall Bond - 3 stretchers, 1 header, 3 stretchers...



Monk Bond - 2 stretchers, 1 header, 2 stretchers...



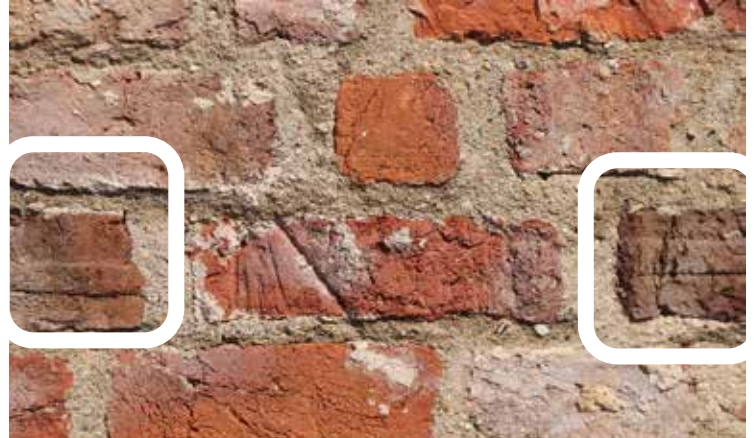
Decorative use of burnt bricks which were over-fired when bricks were often made in glorified bonfires rather than controlled kilns.

## Drying Marks

Once out of the mould, the bricks were left to dry in carefully stacked piles before firing.



Bricks stacked in diagonal piles to dry, resulting in angled sagging between the bricks below



Bricks stacked in parallel piles to dry, resulting in straight sagging between the bricks below



Probably the bottom row of the drying pile with impressions of straw



Even modern bricks overcook sometimes, leaving images of the bricks stacked above or below them in the kiln

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## Other brickwork features

### Dentil Strip

- usually found at eaves level in late18/early19C walls. The decoration takes many forms, and is still used as decoration today. Seems to take its clue from the corbel table of classical architecture.



### Tumbling In -

At the top of gable ends, courses set at rightangles to the wall top, to avoid the cut edge of horizontal courses being exposed. late18/early 19C though still used today as decoration.



### Crow-step gables.

A 16/17C method of avoiding brick cut edges at the gable angle



### Platband and Rusticated corners

Generally 18C - raised brickwork defining the ground-floor ceiling level. The corners are designed to replicate classical stone architecture