

Spar-making

Laying the spar across the padded knee, the spar-hook is used to remove the rough edges.

Each spar is pointed at both ends whilst it is still firmly held on the knee. Three clean cuts are usually sufficient to produce a good point.

The completed spars are tied into bundles usually of about 250. It should be emphasised, however, that when spars are made in large quantities and kept in stock, it is not usual to point them until they are required for use.





Before the pointed spars are used they are twisted to form a staple. This is done by placing the two thumbs together in the centre, and with a firm grip, revolving the hands in opposite directions.

This results in a neat, firm twist.

Pointed spars, twisted and ready for use. Both single and double twists are shown.



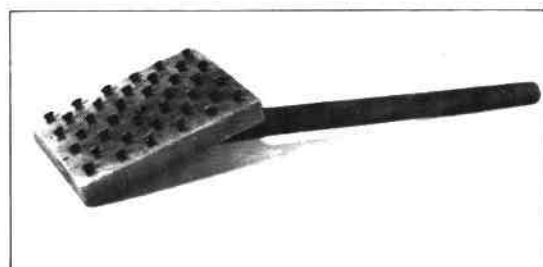
These liggers are split in the same way as spars, but instead of being pointed, the ends are bevelled off to form a chisel-shaped finish for easy joining.

Sways or binders are usually selected from round wood of 1" (25 mm) or more butt diameter. As shown here they can also be split from thicker hazel and trimmed neatly with the spar-hook.



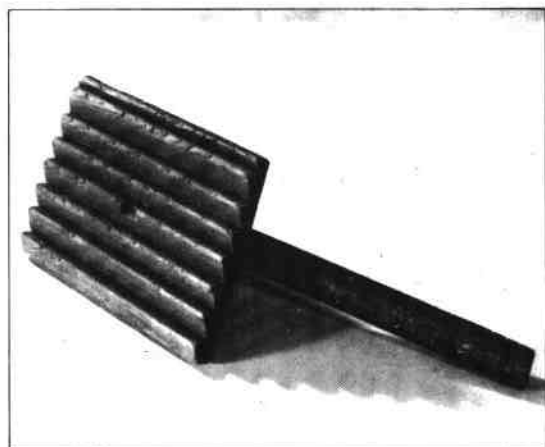
6 | Thatching tools and materials

THE tools the thatcher uses are many and varied. Many of them are hand-made to the thatcher's own specification and vary from county to county.

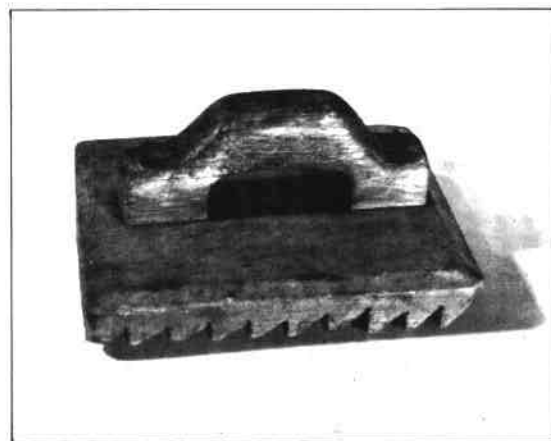


Water reed leggett used for dressing reed into position.

A skilled thatcher will always ensure that he has a complete set of tools on the job to cover every stage of his work.



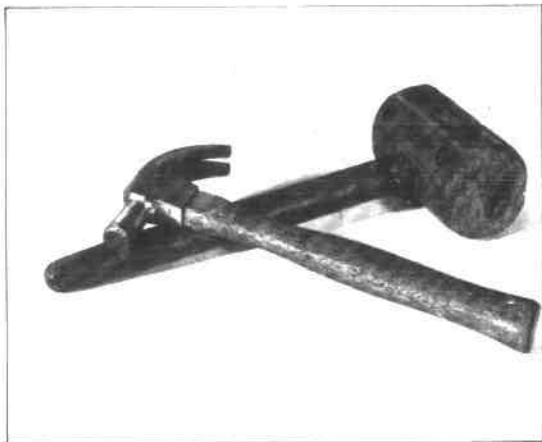
Combed wheat reed leggett showing grooves.



Combed wheat reed leggett of special shape as used in difficult places, e.g. between windows, valleys, etc.

Combed wheat reed leggett showing fixing and angle of handle.





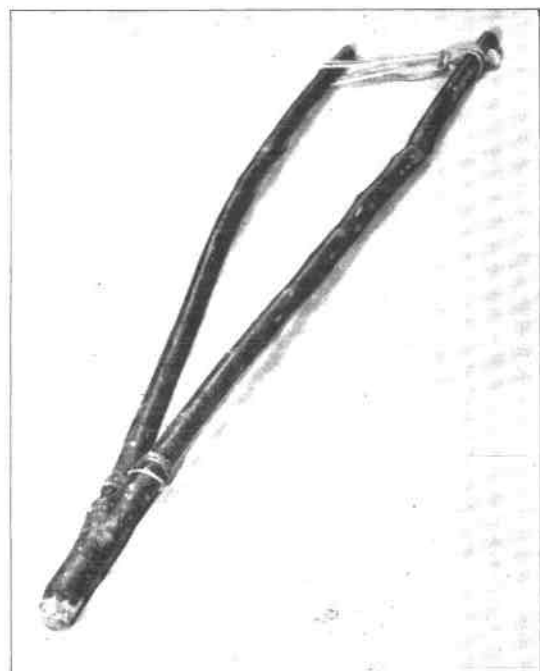
Wooden mallet used for driving spars and claw hammer used for driving iron spikes.



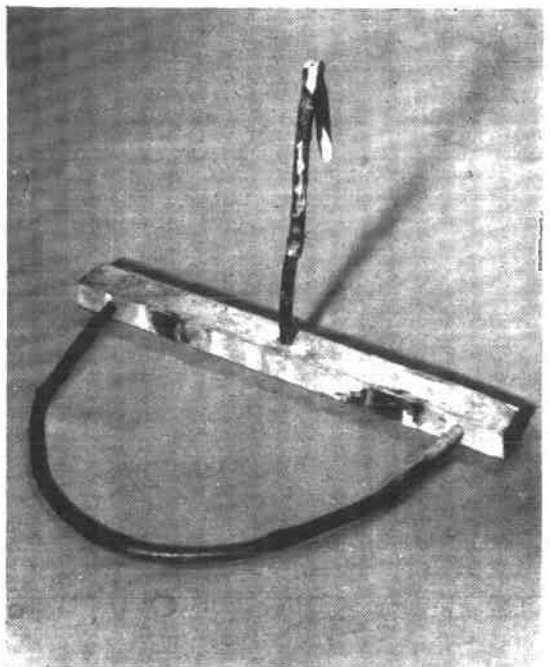
Shearing-hook used for cleaning down face of finished work.



Collection of needles, three stitching needles and two pairs of reeding-needles.



Reed-holder. This hooks on to the batten and the reed is held in the bow.



Yoke. A holder which is laid on the roof after being packed with yealms of long straw.



Spar-hook as used for splitting and pointing hazel spars.



Cutting tools. An eaves-hook, used chiefly in wheat reed work, short-handled knife used for cutting tops of water reed where they protrude over the apex, and a small knife used for cutting reed bonds prior to laying, and sometimes for cutting the pattern in ornamental ridges.



Knee-pads as worn by thatchers for protection.



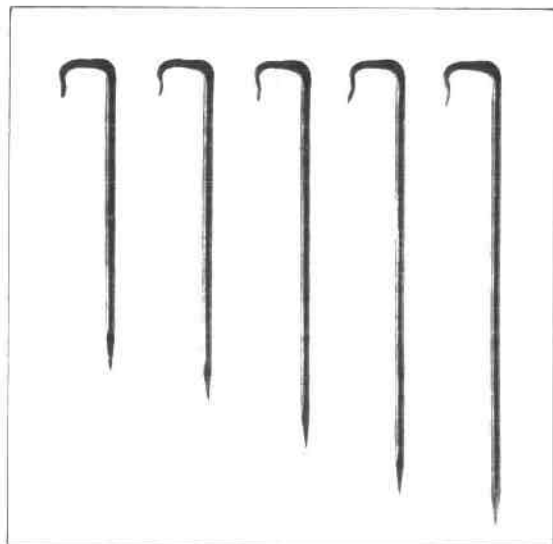
Ball of tarred cord, usually a mixture of jute and sisal, used in conjunction with the stitching needle, to fix the thatch to the battens.



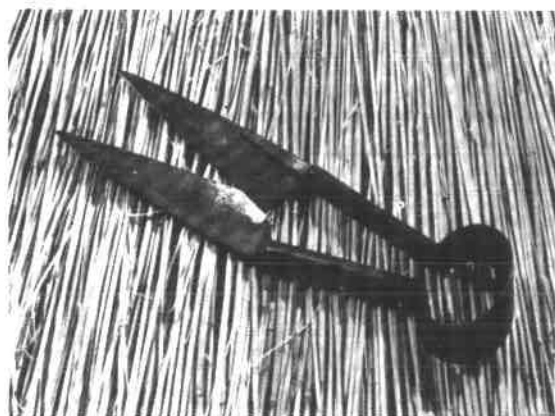
Long eaves-knife used chiefly in long straw work.



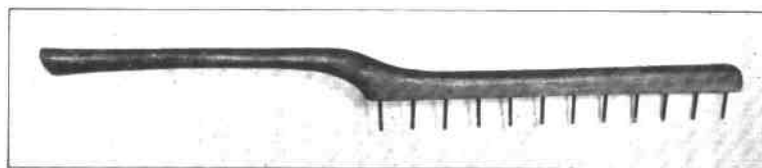
Three types of whetstones, coarse, medium and smooth, for sharpening edged tools.



Iron thatching-hooks varying in length from 7" to 12" (170 mm to 300 mm), used in conjunction with hazel sways, to fix the thatch to the rafters.



Hand-shears used for trimming purposes when finishing off.



Side-rake (for long straw only) used for dressing down work and raking out waste.

TOOLS AND MATERIALS

There are a number of essential tools used in various parts of the country which are not illustrated here. Some of them are as follows:

1. Two-tined hay or straw fork used mainly for long straw work, but also of general use in carrying waste for disposal.
2. Tape-measure – required for measuring the area of a roof when preparing an estimate, minimum 66' (20 m) in length.
3. Several strong scaffold cords – necessary for splicing ladders, or securing the ladder foot.
4. Bucket for carrying water.
5. Spiked ladder of six or eight rungs with two long spikes at one end which anchor it to the roof.
6. Thatcher's horse – a wooden frame having two spikes which penetrate the thatch, used mainly in the west country in place of a long ladder.
7. Spot-board – a wooden board placed on the ground and used for butting water reed and wheat reed. This is about 39" (1 m) square, or if circular 39" (1 m) diameter.
8. Danger signs and red warning flags to be used when ladders are placed on a public highway.
9. Leather palm – used in some counties to protect the hand when pushing home spars or 'palming' the butts of reed.
10. Wire-cutting shears, used for cutting wire netting.

WIRE NETTING. It is considered an advantage, particularly where sparrows, starlings, and woodpeckers are numerous, to cover long straw thatch and sometimes wheat reed with $\frac{3}{4}$ " (19 mm) galvanized netting.

In the case of water reed, it is normal to cover

only the ridges and barges. When a thatched roof is situated immediately beneath overhanging trees it should not be covered with wire netting as falling leaves and twigs would collect in the mesh.

For details of fixing see Chapter 7, 'Fire Precautions', page 210.

7 | Fire precautions

WHILST there are many thousands of thatched properties in the British Isles, very few are damaged or destroyed by fire. However, since such buildings are very often several miles from a fire station, it is inevitable that there will be some delay in appliances reaching the scene. Adequate supplies of water to enable the firemen to fight the fire with all speed is vital. It is essential that firemen have easy access to the roof space and that they have adequate room in which to work.

The following will affect the outcome of any fire:

Time taken to discover it.

Time taken to call the fire service and for the firemen to arrive.

Accessibility for fire appliances and men.

Adequate supply of water.

Electrical Cables

Where the supply cables for electricity are above the ceiling joists and under the rafters in the loft they should comply with BS 6207 Part 1 'Wiring System using Mineral Insulated Cables' or, alternatively, BS 31 or BS 4568 Parts 1 and 2 'Wiring System using PVC Insulated Cables enclosed in Conduit'.

If the thatched roof is covered with protective wire netting this must not come within 12" (300 mm) of an electrical cable unless adequate insulation is provided.

Electrical Fittings

Electric light fittings in the roof space should be enclosed in a bulkhead or well-glass fitting.

Television Aerials

Television aerial leads should not pass over or under the thatch. Aerials should be fitted to a free-standing pole at least 20' (7 m) from the roof. Where this is not possible, aerials can be fixed to a gable end chimney and the lead taken down the wall, avoiding any contact with the thatch.

Draughts

Close all gaps from inside the loft, at eaves, wall plate, gable ends and chimneys with a cement/lime/sand fillet mix in the proportion of one of cement, two of lime and four of sand by volume. Make the trapdoor to the loft as airtight as possible.

Open Fires and Chimneys

The height of the chimney should conform to local council recommendations and be fitted with a spark arrester suitable for the type of fuel used.

210 Avoid fuels which emit sparks and those which make a lot of soot. Have the chimney swept regularly, especially if burning wood in a coal-burning grate. Chimney breasts and flues should conform to the Building Regulations, particularly with regard to the proximity of combustible or conducting materials. As a general principle these materials should not be within 2" (50 mm) of a chimney breast. In the case of flue pipes the distances are much greater and expert advice should be sought.

Storage

Do not store combustible materials in the roof space.

Smoking

No naked lights or smoking should be permitted in the roof space.

Restricting the Spread of Fire

All thatched roofs should be completely under-drawn with Asbestolux insulation board not less than $\frac{1}{2}$ " (12 mm) thick. Cement asbestos sheeting which rapidly disintegrates when subjected to high temperatures is *not* suitable.

The Asbestolux insulation board is fixed under rafters and made as airtight as possible by sealing all joints between it and adjacent surfaces with good-quality plaster. The sealing of the Asbestolux insulation board lining, and the rendering at the edges of the thatched roof, must be maintained in good condition.

To ensure that roof supports hold for the maximum amount of time in the event of fire, all timbers should be treated with fire-retardant paint or solution in accordance with the manufacturer's instructions.

Structural Aid to Fire Fighting

Ceilings beneath a thatched roof need to be sufficiently strong to support firemen and their equipment (approximately 500 lb (227 kg)). A large roof would require appropriately greater

support. Access to the roof should be from inside with a hatch of not less than 3' x 2' (900 mm x 600 mm) serving each space. The hatch should have a cover or doors which would resist fire for at least half an hour.

Should Fire Occur

Call the Fire Brigade immediately, give the precise address and nearest main thoroughfare or landmark and tell them that the property is thatched.

A garden hose connected to a water supply of sufficient pressure can be used to damped the thatch if it is on fire externally and can be reached without endangering personal safety. An adequate length of non-kink hose permanently attached to an outside supply is a wise precaution.

If possible remove furniture from the upper floors, as this will help arrest the spread of fire.

Do nothing which will increase draught inside the roof space or the building. Keep all doors and hatches closed. *On no account remove thatch from the roof* as this will create an aperture through which draught will rush to fan the fire.

Fixing Methods for Wire-netting on Thatch

Main roof

Netting is laid vertically from ridge to eaves, with seams side by side and not overlapping, using a metal hook designed for the purpose, the two edges are twisted together at 9" (228 mm) intervals.

Apex

Netting is joined at the apex where it meets at the centre of the ridge.

Under eaves

The netting is secured to the eaves timber with clenched $1\frac{1}{2}$ " (approximately 40 mm) galvanised wire nails (not staples).

Gables

Netting is carried round thatched gables or secured to gable boards or galvanised rafters with clenched $1\frac{1}{2}$ " (approximately 40 mm) galvanised wire nails.

Hips/Valleys

Netting is cut to fit and closely joined along the angle of the hip or valley.

Windows

Netting is secured to the window frame with clenched $1\frac{1}{2}$ " (approximately 40 mm) galvanised wire nails.

Chimneys

Fixing is made by plugging mortar joints in brickwork or stonework to enable the netting to be nailed to the stack. Finally, weak mortar fillet can be applied to the stack, which further secures the netting. Netting is secured under lead flashing.

Removal of Wire Netting

If the above recommendations are carried out, wire netting can be easily stripped from a thatched roof.

First, pull the netting apart at the point where it is joined at the apex, the vertical seams are then separated by pulling each section apart. Finally, the netting will be released by pulling it away from the nails at gables and under-eaves.

BEFORE thatch is applied to a roof it is necessary to provide a properly constructed framework to which it will be fastened. Experience has shown that thatchers quite often arrive on a site to start thatching, only to find that the structure provided, whilst being suitable for other materials, does not include certain features of construction which are essential for thatch. This invariably means that carpenters have to be recalled, extra expenditure is incurred and valuable time is lost. It is hoped that by the inclusion of this chapter, this state of affairs may be avoided.

Sizes of members etc. are not shown on the plates, as these plates are an indication of the methods of construction. The sizes of the main members are governed by bye-laws which should always be consulted.

SMALL SPAN ROOFS

Construction is shown for spans of approximately 11' 0" (3.5 m) and 16' 6" (5 m) together with a layer board valley.

11' 0" (3.5 m) span roof

A simple collar is adequate for spans up to 11' 0" (3.5 m). The sizes of roof members should conform with bye-laws. Rafters may be 4" × 1½" (100 mm × 38 mm) or 4" × 2" (100 mm × 50 mm)

according to load. The 4" × 2" (100 mm × 50 mm) ceiling joists may act as collars. These sizes conform with normal bye-laws for a 11' 0" (3.5 m) span and a 50° pitch. The collar should be kept within the bottom third of the overall height of the roof for stability and should be securely spiked to the rafters or fixed with timber connectors. All the rafters should be 'Bird-mouthed' over the wall-plates. The depth of the 'Bird-mouth' should be approximately 1" (25 mm).

16' 6" (5 m) span roof

If the span is a clear span a simple form of truss is necessary and may consist of two 4" × 1½" (100 mm × 38 mm) or two 4" × 2" (100 mm × 50 mm) rafters, a 4" × 2" (100 mm × 50 mm) tie and 4" × 2" (100 mm × 50 mm) collar, with 4" × 2" (100 mm × 50 mm) placed members secured to the rafters, collars and tie as shown. These members should be notched to take purlins in such a fashion as to seat the purlins at right angles to the rafters. A small collar should also be provided under the ridge. These trusses may be at between 6' 0" (2 m) and 8' 0" (2.5 m) centres and purlins and binders will vary accordingly, the purlins between 5" × 2" (125 mm × 50 mm) and 7" × 2" (175 mm × 50 mm) and the binder between 5" × 2" (125 mm × 50 mm) and 6" × 2" (150 mm × 50 mm). The remainder of

8 | Measurement and specifications

THATCH

Measurement, Cost Calculations and Specifications

The measurements and specifications detailed emanate from many years of practical experience. They relate to good craftsmanship and to recognised standards of thatching in water reed, combed wheat reed and long straw. Thatching styles, which impart character and individuality, do however vary from district to district, inhibiting the risk of uniformity. Measurements and calculations are based on square metres (M^2) of roof area and metric lineal measure.

MEASUREMENT

Area

The traditional methods of measuring thatch vary in detail but all yield approximately the same result. Thatchers, and builders using other roofing materials, calculate superficial roof area in square metres (M^2). In thatch, however, the thickness or depth of the thatch has also to be taken into consideration and this is done by adding the thickness dimension to both the length and breadth roof measurements. The superficial area of dormer and eyebrow windows, hips and valleys, including the thickness dimension is also added to produce the total superficial area.

Lineal measure

All eaves, gables, ridges, hips and valleys are measured in lineal metres.

The totals: (1) superficial roof area and (2) lineal measure, are converted to costs, (i) per square metre and (ii) per lineal metre and the results used in the preparation of an estimate of total cost.

NEW ROOFS

Area

Where the length of wallplate and the length of rafter are known, the superficial roof area is obtained (a) by multiplying these dimensions together and the result by two, and (b) by estimating the superficial area of dormer and eyebrow windows, hip and valleys. Together these figures represent the total superficial roof area, 10% of which is added to take account of the thickness of the thatch.

Lineal measure

It is often necessary to acquire this measurement for quotations or estimates, particularly when providing information for architects. The standard quote is for a metre run, the cost of which would be determined by the thatcher in his usual estimating procedure, i.e. materials, labour, etc. This method of measurement would include such

- 214 work as (1) *ridging* which would incorporate the type, i.e. flush, block, turnover, butt-up and ornamental finish. (2) *repair work*, i.e. gables, eaves, valleys, coating, ligger and spar-work. (3) *netting* – when applying netting to thatch and the width of a roll is known, by measuring the surface of the roof as previously described the amount of netting required can be ascertained. (4) *labour costs* when materials are supplied by client.

OLD ROOFS

Area

In the preparation of a reliable estimate careful attention is necessary to ensure that measurements are taken at the correct points, bearing in mind the considerable variation in the amount of stripping necessary to reach the desired sound foundation.

1. If the existing thatch is badly worn, and is measured as it stands, an under-estimate of the roof area will result.
2. If the roof carries a very thick thatch, hanging low at the eaves, and is measured as it stands an over-estimation will result.

In both cases, therefore, the measurement has to be adjusted.

Generally, the procedure is to measure the distance over the roof from eaves to eaves, including the thickness of the thatch at both eaves. The horizontal measurement of length is taken at eaves level, including the finished thicknesses of both barges. These dimensions multiplied together produce the superficial area of the roof. To this must be added the superficial area of dormer and eyebrow windows, hips and valleys.

Although the above method may appear to apply only to roofs with regular rectangular surfaces, it can be demonstrated that the method also produces a correct result when applied to hipped and half-hipped roofs.

CIRCULAR ROOF

Area

To determine the area of a circular roof: the distance from the apex down over the eaves to the wall, to include the thickness of thatch, is measured and this dimension multiplied by half the circumference.

SPECIFICATIONS

Quantities per Square Metre (m^2)

Water Reed

	Thickness of Coat	No. of Bundles	Crooked or Tarred Twine	Sways
New Work	300 mm	9-11	400 mm centres or 100g of tarred twine	Three 2 m
	250 mm at barges			
	300-350 mm in eaves according to pitch			

RIDGE: Per lineal metre: 100-120 spars, 11 liggers. The pattern course should be of sedge; a roll of reed should be fixed on the apex of the ridge and covered with a sedge turnover, 150 mm thick.

Both sides of the ridge are finished with rods in herring-bone or diamond cross sparring and cut to the required pattern.

Combed Wheat Reed

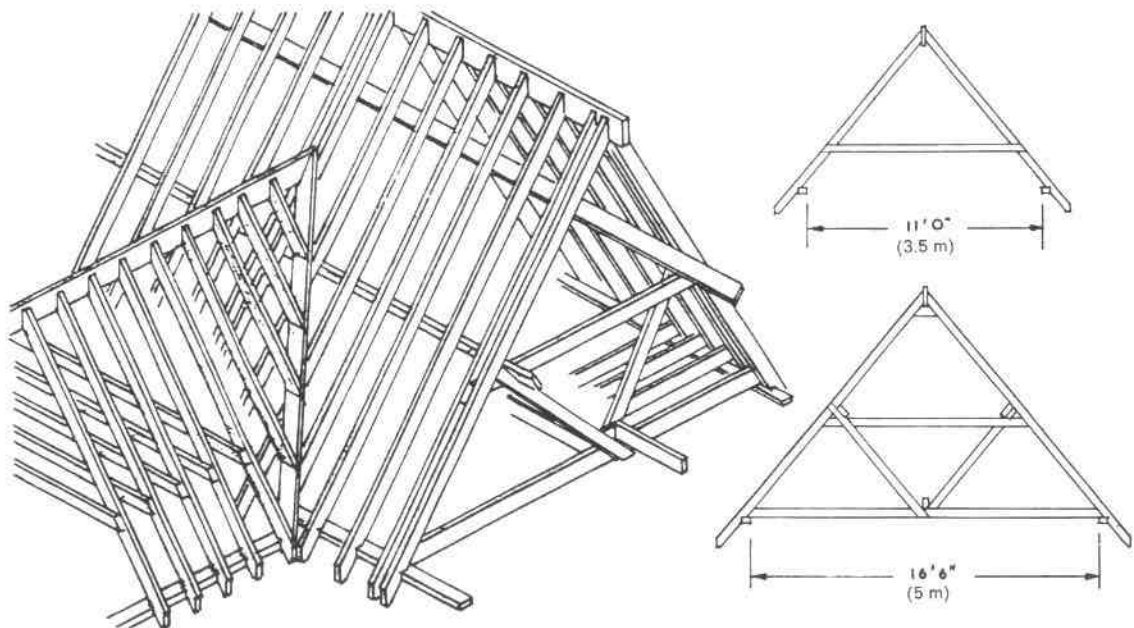
	Thickness of Coat	No. of nitches 13 kg per nitch	Tarred Twine	Sways or Binders	Spars	Crooks
New Work	300-450 mm	2.25	70g	3	3-5	5-7
Undercoat or Waistcoat*	200-250 mm	1.5	70g	3		
Re-coating	200-250 mm	1.5	18g		22-28	

*An undercoat or waistcoat is used in some areas as a base, to which a top or finishing coat of thatch is sparred (fixed).

Threshed Long Wheat Straw

	Thickness of Coat	Amount	Tarred Twine or Crooks	Sways or Binders	Spars
New Work	400 mm	28 kg	70g	5-7	3
Re-coating*	250-300 mm	21 kg			22-28

*The roof, including all eaves and gables, should be stripped of superfluous and decayed thatch down to a sound foundation of original coat.



SMALL SPAN ROOFS

the ceiling joists between the spans should be securely spiked to the binder to prevent sagging. If there is a convenient structural wall in or near the centre of the span the binders may be omitted and the $4" \times 2"$ ($100 \text{ mm} \times 50 \text{ mm}$) diagonal members previously mentioned could form simple struts. Intermediate rafters and ceiling joists, between the trusses, should be $4" \times 2"$ ($100 \text{ mm} \times 50 \text{ mm}$).

Valley

The valley is constructed with a $7" \times 1\frac{1}{2}"$ ($175 \text{ mm} \times 38 \text{ mm}$) layer board, laid over the rafters of the main roof, the jack-rafters of the small roof being spiked to these. With this form of construction, it is not necessary for the abutments of the jack-rafters to coincide with the position of the rafters in the main roof. A ridge of the smaller roof can be conveniently housed between the twin rafter members of the truss.

MEDIUM SPAN ROOFS

This truss is suitable for $24' 0"$ (7 m) spans and

incorporates $4" \times 2"$ ($100 \text{ mm} \times 50 \text{ mm}$) ridge collars, $4" \times 2"$ ($100 \text{ mm} \times 50 \text{ mm}$) diagonal and bottom ties, $3" \times 1"$ ($75 \text{ mm} \times 25 \text{ mm}$) hangers. The purlin sizes and binder sizes will vary according to the spacing of the trusses as previously described. At such spans it is necessary to provide support for the ceiling joists in three positions, in order that the ceiling joists may remain at $4" \times 2"$ ($100 \text{ mm} \times 50 \text{ mm}$). This truss provides for three binders, some of which may be omitted if a convenient structural support is available on or near the positions of these binders; particular attention should be paid to the joisting of members where toothed timber connectors or nailed galvanised angle connectors could be usefully employed.

Valley

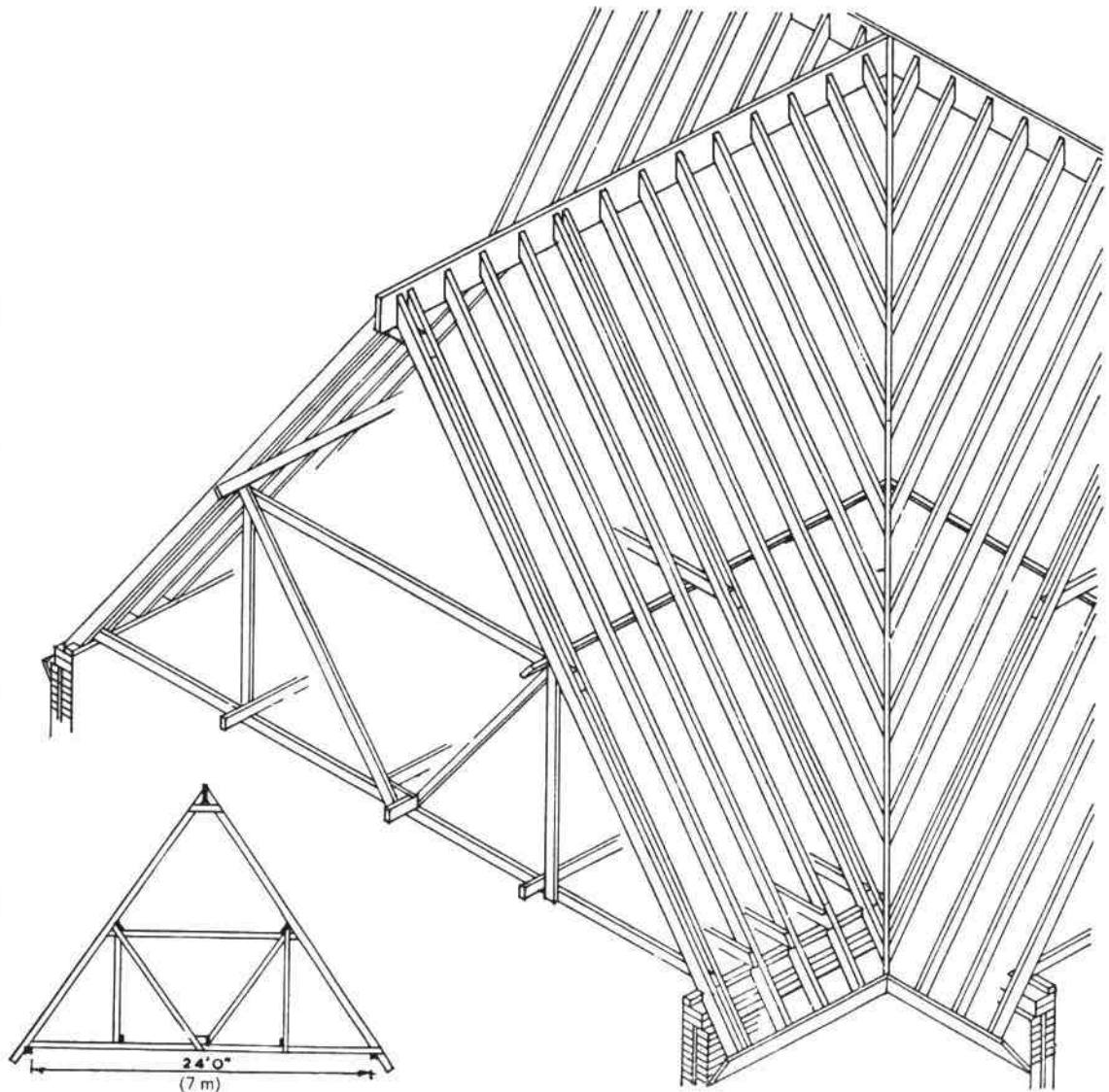
Where the spans are large and equal, and where the rafter spacings are equal, a conventional valley-rafter should be employed. This should be $7" \times 1\frac{1}{4}"$ ($175 \text{ mm} \times 38 \text{ mm}$). Jack-rafters should then coincide as far as possible.

EAVES TREATMENTS

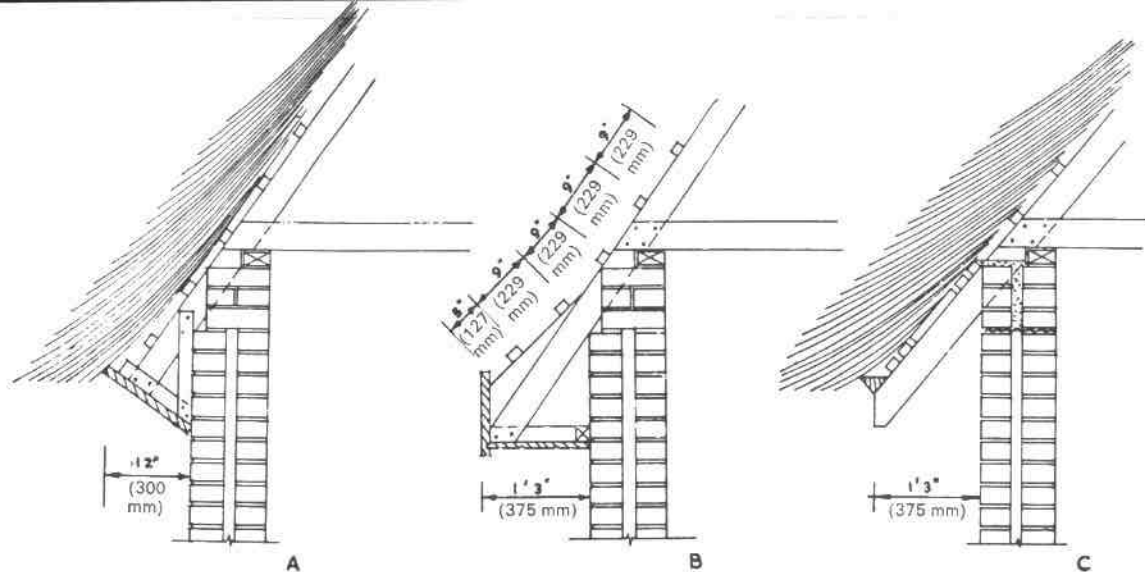
A. *Close board raking type.* Bearers and hangers are constructed of $2" \times 1\frac{1}{2}"$ ($50 \text{ mm} \times 38 \text{ mm}$) timbers, with a $1\frac{1}{2}"$ (38 mm) fascia board. Timber work should overhang $12"$ (300 mm). The hangers are spiked to the rafters.

B. *Eaves with vertical fascia and close boarded*

soffite. Soffite bearers $2" \times 1\frac{1}{2}"$ ($50 \text{ mm} \times 38 \text{ mm}$) are fixed to $2" \times 1\frac{1}{2}"$ ($50 \text{ mm} \times 38 \text{ mm}$) plates which are plugged to the wall. $4" \times 2"$ ($100 \text{ mm} \times 50 \text{ mm}$) sprockets carry two $1\frac{1}{2}" \times 1"$ ($38 \text{ mm} \times 25 \text{ mm}$) battens, the distance of the first batten is $5"$ (125 mm) from the edge of the fascia. The gauge of the remaining battens is $9"$ (225 mm). The cavity is



MEDIUM SPAN ROOFS



EAVES TREATMENTS

closed by three courses of brickwork. Pitches from 47° to 60° are suitable for all types. A fascia ex. $1\frac{1}{2}'' \times 12''$ ($38 \text{ mm} \times 300 \text{ mm}$) should be grooved to take the tongue of a $1''$ (25 mm) tongued and grooved boarded soffit. The wallplate may be $4'' \times 2''$ ($100 \text{ mm} \times 50 \text{ mm}$) or $3'' \times 2''$ ($75 \text{ mm} \times 50 \text{ mm}$).

C. *Open eaves type. Foot of rafter as shown.* This roof is finished with a $3'' \times 3''$ ($75 \text{ mm} \times 75 \text{ mm}$) tilting fillet. The spacings of the first fixing batten and subsequent battens are $5''$ (125 mm) and $9''$ (225 mm) as shown for the type B eaves. The remaining portion of the overhang to the eaves is filled with $1''$ (25 mm) eaves-boards and battens, allowing sufficient room to tie the thatch. The top of the cavity should be closed with expanded metal and cement mortar. Cement mortar is finished against the infill batten to prevent ingress of vermin. The projection to the edge of the timberwork is $15''$ (375 mm).

RIDGE AND VERGES

Ridge

Assuming the rafters are $4'' \times 2''$ ($100 \text{ mm} \times 50 \text{ mm}$) at a pitch of approximately 50° a $9'' \times 1''$ ($225 \text{ mm} \times 25 \text{ mm}$) ridge would be necessary. The top batten should be $2''$ (50 mm) from the ridge, the upstand of the ridge should also be $2''$ (50 mm).

Type X Verge

$4'' \times 2''$ ($100 \text{ mm} \times 50 \text{ mm}$) sprockets run from the last rafter inside the building, to the verge which is fixed to a rafter $10''$ (250 mm) from the face of the external brickwork. The barge-board should be approximately $9''$ (225 mm) or of a size to suit the eaves detail. The upstand of the barge-board above the battens should be $1\frac{1}{2}''$ (38 mm). The top of the cavity may be closed by slate bedded in mortar with the batten passing over.

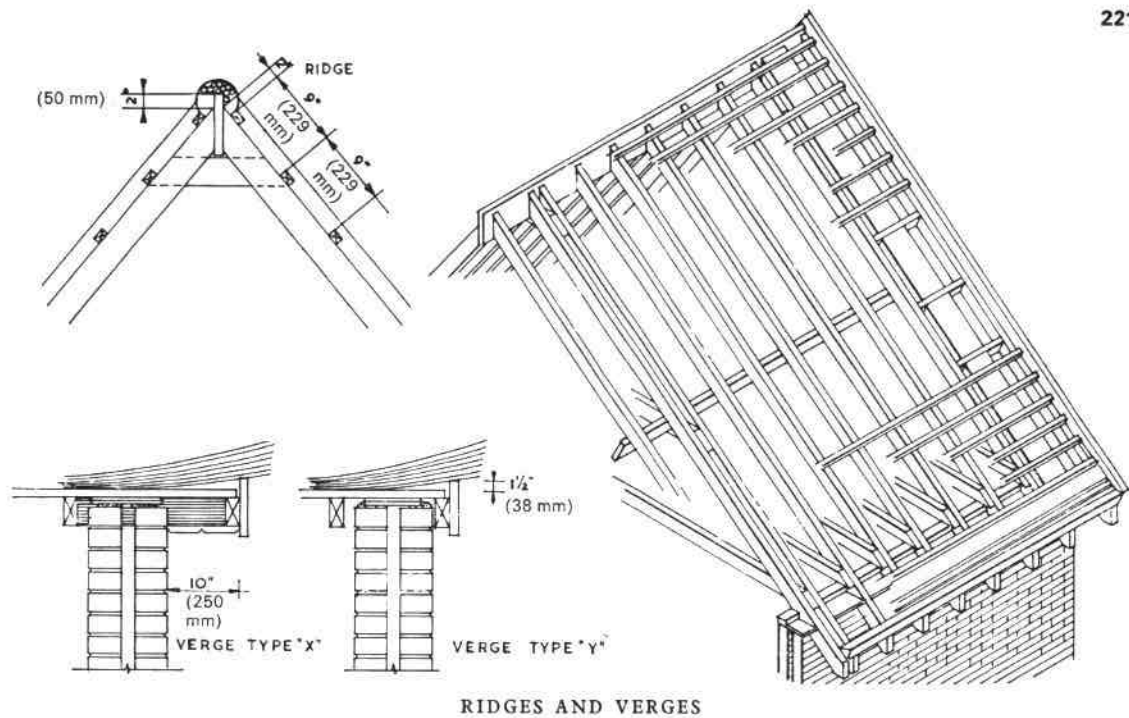
Type Y Verge

$4'' \times 2''$ ($100 \text{ mm} \times 50 \text{ mm}$) verge rafters are spiked to the brickwork and the barge-board is spiked to the verge rafter. Other details are shown for the type X verge.

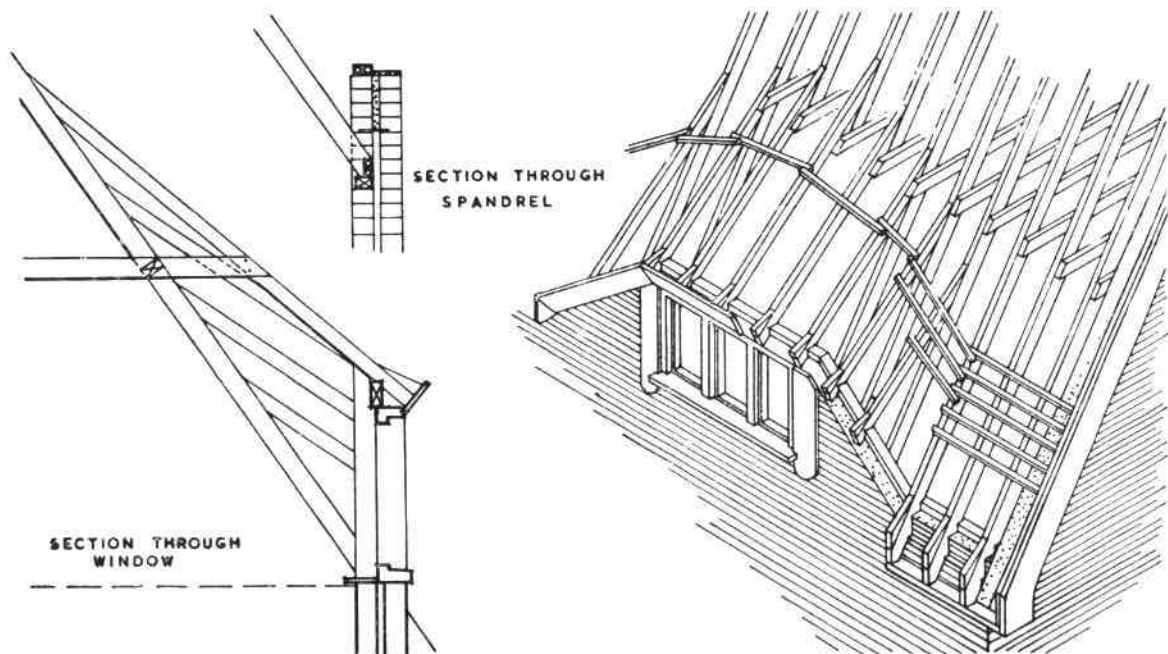
Type C eaves treatment is shown in conjunction with a type X verge. Typical purlin and truss roof arrangements suitable for spans of $16' 0''$ (5 m) are also shown. Note that built-in purlins do not project into the cavity at the verge. Note also that the last rafter is approximately $1''$ (25 mm) from the inside edge of the brickwork.

EAVES-WINDOWS

As the 50° pitch and the necessary eaves overhang produces a fascia in many cases considerably lower than the internal ceiling joist, an eaves-



RIDGES AND VERGES



EAVES-WINDOW

222 window is frequently necessary. To provide this window the brickwork can be carried up above the normal wallplate level, the wallplate continuing into these brick spandrels to provide a seating for the untrimmed rafters as shown in the small section. Over the wallplate $3'' \times 1\frac{1}{2}''$ ($75 \text{ mm} \times 38 \text{ mm}$) spacers are shown to further secure the foot of the rafters. The cavity to this triangular piece of brickwork is shown closed with expanded metal and cement mortar. A further $3'' \times 2''$ ($75 \text{ mm} \times 50 \text{ mm}$) wallplate is shown on top of these sections of brickwork and continuing across the head of the window. Common rafters opposite the window opening may be trimmed, or, as shown here, securely nailed to an adjacent purlin. The ceiling joists, which are also acting as collars, can be extended past the trimmed rafters and nailed to small $3'' \times 2''$ ($75 \text{ mm} \times 50 \text{ mm}$) rafters forming the roof over the window opening. These small rafters are shown splayed and nailed to the common rafters in a staggered formation to provide a curved seating for the thatch. In a similar fashion the sprockets at the foot of the small rafters may be increased in size towards the centre of the window to provide a fixing for the curved fascia, which can be continued down the spandrel brickwork from which a normal eaves treatment will continue either of type A or B. That shown is of type B, and the end of type B fascia has been boxed in where it meets the fascia to the raking spandrel brickwork; $1\frac{1}{2}'' \times 1''$ ($38 \text{ mm} \times 25 \text{ mm}$) battens can be laid in short lengths to follow the curve of the roof over the eaves-window.

DORMER-WINDOWS

Two designs are shown, each of similar construction. The construction of the roof to the dormers is similar in most respects to that of the eaves-window but separate $3'' \times 2''$ ($75 \text{ mm} \times 50 \text{ mm}$) ceiling joists have been inserted as an alternative to carrying through the ceiling joists or collars. This has the advantage of providing a flat instead of a curved ceiling over the window opening. Again the rafters projecting into the dormer may be trimmed

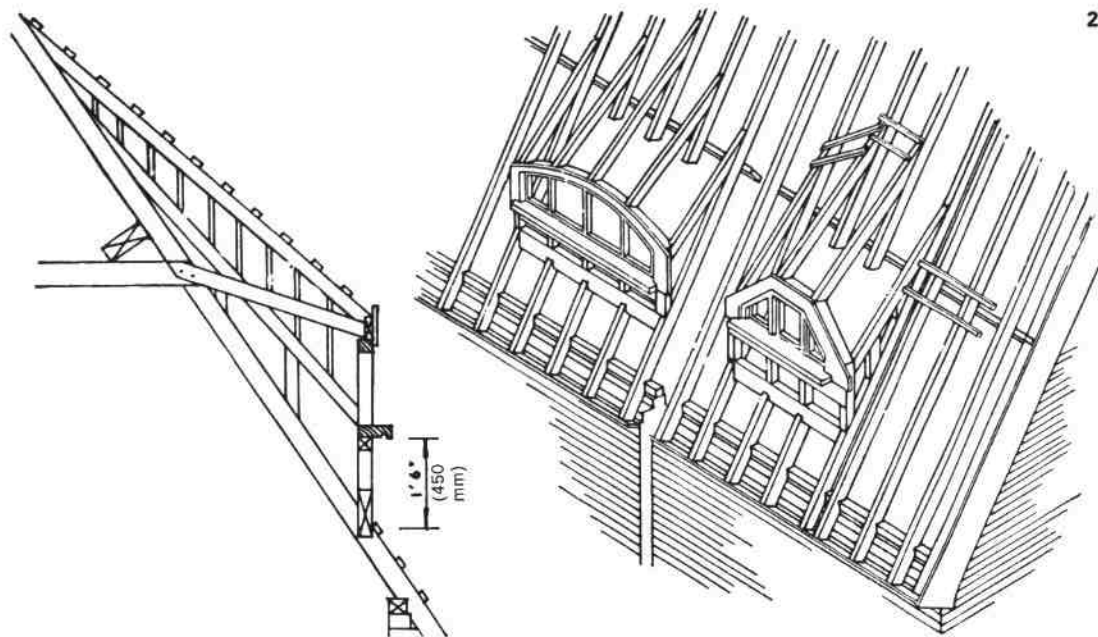
or secured to a suitable purlin as shown. At the foot of the dormer-window the rafters have been trimmed by a $8'' \times 2''$ ($200 \text{ mm} \times 50 \text{ mm}$) trimmer or upstand, and should extend a minimum of $1' 6''$ (450 mm) above the structural roof level in $2'' \times 2''$ ($50 \text{ mm} \times 50 \text{ mm}$) noggin, in order that the lead flashing under the sill should fully weather the thatching. A fascia should be provided, continuing on all three sides of the dormer-window and providing a projection or tilt of $1\frac{1}{2}''$ (38 mm). It is important that the pitch of the dormer-roof and of the eaves-window roof should be at least 45° and on no account less than 40° .

CHIMNEY-FLASHING

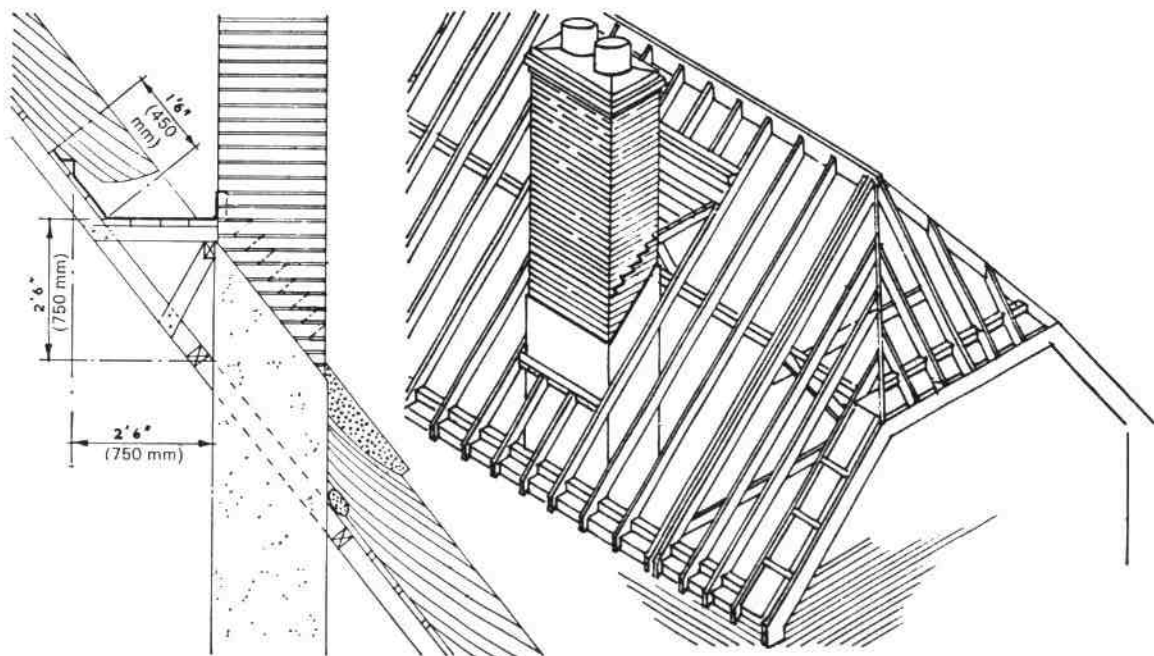
Particular attention should be paid to the dimensions shown on the section to provide adequate guttering for the thatched roof. The distance from the tilting fillet from the face of the chimney should be $2' 6''$ (750 mm) and the tilting fillet should be at least $12''$ (300 mm) above the bed of the gutter. This tilting fillet should be ex. $2'' \times 3''$ ($50 \text{ mm} \times 75 \text{ mm}$) tongued and grooved boarding. The structure composed of bearers, struts and plates may be $3'' \times 2''$ ($75 \text{ mm} \times 50 \text{ mm}$) timber. The rafters below and above the chimney should be trimmed and the size of the trimmers may be $4'' \times 2''$ ($100 \text{ mm} \times 50 \text{ mm}$) or $4'' \times 3''$ ($100 \text{ mm} \times 75 \text{ mm}$) according to the loads which they are required to take (this will depend on the lengths and numbers of the rafters which they receive). Care should be taken that the gutter discharges above the level of the thatching and that the pargetting to the lower portion of the chimney is not lower than the level of the thatch.

Half-hip

In the half-hip either types of verge treatment could be used, and it should be noted that a wallplate will only be necessary along the top portion of the hip. Sprockets from $4'' \times 2''$ ($100 \text{ mm} \times 50 \text{ mm}$) may or may not be necessary along the raking brickwork of the half-hip according to the type of verge treatment.



DORMER-WINDOWS



CHIMNEY-FLASHING AND HALF-HIP

Glossary of thatching terms

Bed: A prepared heap of long straw, sedge or rye from which a yealm is drawn.

Bottle: A yealm of straw tied at the small end, used for setting eaves and gables.

Brow Course: The first course of reed – after eave setting, which sets the pitch of the roof.

Bunch: Bundle of water reed approximately 24" (600 mm) or 39" (1 m) in circumference.

Butt: The lower end of a bundle of straw or reed.

Butting: Dressing the butt ends by dropping on to a hard clean surface.

Combed Wheat Reed: Wheat straw which has been passed through a reed comber.

Course: A horizontal layer of reed or straw thatch.

Crooks or Hooks: Made from $\frac{1}{4}$ " – $\frac{3}{8}$ " (6–10 mm) iron rod varying from 8"–12" (200–300 mm) in length, pointed at one end, with a turned head at the other. Used in securing thatch to roof by driving into rafters in conjunction with a sway.

Cross Rods: Hazel or willow rods fixed for ornamentation between liggers.

Fleeking: A woven mat of water reed used as an alternative to battens. Imparts an attractive finished appearance to the underside of thatch in buildings with open rafters, such as barns and pavilions.

Flashing: Sheet lead fixed over the thatch and into the brickwork at junction with chimney.

Gable: Alternatively known as 'flue', 'verge', or 'barge', the finished edge of thatch overhanging the gable.

Gadd: Length of hazel or willow before splitting.

Liggers or Rods: Split hazel or willow, 4'–5' (1–1½ m) in length, used on outside surface of ridges and in the case of long straw to eaves and gables also.

Long Wheat Straw: Threshed wheat straw, wetted and prepared by hand.

Nib: Portion of thatch beside a window or chimney.

Nitch: A bundle of combed wheat reed weighing approximately 28 lb (13 kg).

Pinnacle: A raised end of the ridge, surmounting gable or top point of hip.

Ridge: Capping or top-most portion of roof.

Types:

(a) Plain: ridge finished off flush with surface.

(b) Decorated: cross sparring or herring-bone pattern.

(c) Straight cut: block ridge 3"–4" (80–100 mm) thick cut in straight line below bottom ligger.

(d) Ornamental: bottom edge of ridge cut to any desired pattern.

Roll or Dolly: Bundle of reed or straw 4"–8" (100–200 mm) in diameter and of any suitable length used for building up ridge prior to capping.

226 *Rye Straw*: Threshed and used for ridging.

Saddle: The junction of a ridge with a main coat.

Sedge: Used for ridge capping on water reed thatch.

Skirt: The side courses of a ridge.

Spars: Sometimes referred to as broaches. Split hazel or willow rods 30" ($\frac{3}{4}$ m) in length pointed at each end and twisted in the centre to form a staple. Used for securing new coat of thatch to existing coat, also to secure liggers on ridges.

Spot Board: Board for butting reed.

Stulch: A strip of thatch approximately 30" ($\frac{3}{4}$ m) wide running from eaves to ridge, laid as work proceeds.

Sways, Ledgers or Binders: Split round rods 3'-10' (1-3 m) in length used to secure thatch to the roof by being placed horizontally across each course of thatch. They are fixed by stitching with tarred cord or by crooks driven into each

rafter at intervals. They are covered by each succeeding course.

Sweep: The forming of a valley.

Tarred Twine or Cord: Strong cord, treated with Stockholm tar, and used for stitching thatch to rafters or battens.

Tilting, Fillett or Arris: Timber used in eaves and gable treatment to provide tension in the material.

Wadd: Small bunch of combed wheat reed tied at the top for setting eaves and gables.

Water Reed: Grows on British and Continental marshes and riverside marshland; sometimes contains a small amount of mace reed and boulder.

Yealm: A prepared drawn layer of long straw or sedge 14"-18" (350-450 mm) wide and 4" (100 mm) thick.