The ridge-course is secured and levelled by fixing down the top ligger with spars which are driven in at an angle.

We turn now to the process of sparring down the liggers. The arrangement of these is entirely dependent upon the design selected. The first ligger is spared down.

The second ligger is fixed in place. In the event of a plain, flush finish being preferred, the part of the course extending below this ligger may be removed with the shearing-hook.
The third ligger is now sparred in. Starting from the apex and working downwards the spacings are 6\" (150 mm), 6\" (150 mm) and 12\" (300 mm) respectively.

The cap-end will have to be made up to bring it into shape. This is done by taking a handful of reed and folding part of the small end over.

This small handful of reed is worked into space and is followed by others until the required shape is achieved.
Combed wheat reed

An occasional spar driven in here and there will secure the reed.

The topmost ligger is now bent over the end and sp arred down tightly.

Cross-rods may be inserted 8" (200 mm) apart, between the second and third liggers.
The straws in the cap-end are levelled and arranged to conform with the cone-like shape of the end.

The liggers are now carried round the end and spared into place. Joins are made by halving the ends of the liggers under one spar fixing.

The cross-rod design is continued round the cap-end and a spar is driven in firmly at each point where the rods cross.
An impression of the cap-end, after the liggers have been sparrowed down, is illustrated. By working several handfuls of reed under the course, extra thickness is provided for the pattern.

The pattern will be cut to follow the sparrowed-down rods.

Here the side-rake is again useful as a straight-edge when the pattern is cut.
The left-hand side of the pattern is cut with the small knife.

After the pattern is cut with the knife, ragged edges are trimmed with the shears.

Further progress is made in cutting the straight part of the pattern.
Superfluous straws between the liggers are trimmed off with the shears.

The whole surface is lightly sheared down with the shearing-hook after the pattern is cut.

The illustration gives an impression of the finished ridge as seen from above.
When looking in the direction of the half-hip the narrowness of the top will be clearly seen.

Special care must be taken at the top of the valley where the two ridges join. A completely watertight junction can be made provided the reed is worked tightly together at the appropriate angle.

Before the liggers are sparred down in the cap-end of the gable, the reed is carefully arranged fan-wise to ensure symmetry and neatness. The first ligger is then sparred down.
Second and third liggers are carried round and the cross-rod pattern spared in.

Now that all the liggers on the ridges are spared down, the cutting process is continued round the cap-end.

Applying pressure with the left hand, the horizontal cut is made with the eaves-hook.
Continuing down the left-hand barge, the point of the eaves-hook is kept close to the barge-board. The cut is made at an angle which will provide a generous overhang on the outer edge.

Both barges are now cut and the whole end is trimmed with the shears, making all edges sharp and clear.

The finished ridge, as seen from the cap-end of the gable, again gives emphasis to the narrowness of the apex. This is an essential quality of a good ridge.
The profile of the gable cap-end shows that there is an overhang of almost 15" (380 mm). This can be checked by holding a rule against the face of the barge-board.

The method of finishing off round a chimney which breaks through the ridge is now shown. The tops of the course which overlap the brickwork are twisted inwards to make a firm layer against the chimney.

The tops of the course are neatly twisted in against the chimney.
Another course is laid in front of the chimney and swayed down as high as possible. The tops are again twisted in.

A course is now started on the left-hand side of the chimney. This leaves a cavity in front of the chimney which is later filled in separately.

The cavity can be filled up by laying a course of reed against the brickwork with the butts uppermost.
Combed wheat reed

The lower ends of this course are now taken off with the shearing-hook, flush with the main coating.

The pattern course of the chimney apron is laid. The reed is laid fan-wise to enable the apron to be cut on three sides.

A further small course of reed is laid, after which the liggers are sparred down and the pattern is cut. Following this, the lead apron and the side-flashings may now be fixed and dressed down on the reed.
The work around the chimney is completed.

An inclusive view of the gable, cap-end and the finished work around the chimney.

The courses have been cut away to show the ridge as seen in section. The iron hooks hold the sways which have been sawn through. A depth of 18" (457 mm) is indicated.
RE-THATCHING

Where a roof is in need of re-thatching, it is essential that the existing thatch be stripped down, leaving a tight base 10” to 12” (250 mm to 300 mm) in thickness.

A far better job will result if the old eaves and barge are also stripped right down to the woodwork and completely new wadds tied in as shown on pages 55-59.

The main coating work, which in effect constitutes a new casing over the old, is fastened down by twisting a reed sway across each course or sett and sparring into the old thatch underneath. The remainder of the work is more or less the same as for new thatch.

It may be necessary to strip completely the old thatch from the roof, thereby leaving no base into which to spar the new coat. In this instance a technique known as the spar-coat method can be used. If this method is preferred, then the remedy is to sew on what is sometimes referred to as ‘waistcoat’. This is an underlayer which is roughly thatched on to the battens to a thickness of 8” to 10” (200 mm to 250 mm), and for which second grade reed or liners are used. A casing cover of new reed, 8” to 10” (200 mm to 250 mm) thick, is sparrowed down into this in the usual way.
ACROSS wide areas of marshland in Britain and on the Continent there grows each year a vast quantity of reed (*phragmites communis*), which is indisputably the finest thatching material available. Varying in height from 3′ to 8′ (1 m to 2·5 m), it is easily recognised by its brown feathery seed head, growing on a single stem and having broad spear-like leaves.

Growing with this ‘pure’ reed in some parts of the marshes and waterways, two other plants are found, described as reed mace or bulrush (*typha latifolia*) known locally as ‘boulder’ and the wild iris (*Iris pseudacorus*) known locally as ‘gladden’.

Use of these other plants, mixed in with reed to the extent of fifteen per cent is considered by many to be more durable. This mixture, described as mixed reed is indeed often preferred because of its tapering quality and distinctive appearance.

Reed beds in the British Isles vary in size from 2½ to 75 acres (1 to 30 hectares); on the Continent much larger areas are encountered, but whilst the smaller beds may appear insignificant they are nevertheless a potential source of valuable material. In the spring the root stock of the reed known as rhizomes produces young shoots – colts – which during the summer months steadily flourish in height and turn a green hue. With the approach of autumn the reed turns to a light brown colour, but harvesting can only commence after the frosts have stripped the leaves from the stem, normally after December. Cutting then proceeds throughout the winter into early spring until a new growth of colts appear, when harvesting must cease to avoid damaging the next season’s growth. A bed which has not been harvested for many years will become clogged with lifeless reed and debris, and the periodical flooding and washing by ebb tides may fail to cleanse it. Under these conditions the rhizomes will continue to send up colts but being impeded by the debris the growth will not be straight and is unsuitable for thatching. The reed in such a bed should be burned on the spot, this should ideally be carried out in dry weather, but before doing so the Fire Authority should be notified, and its advice sought. If risks are involved it may suggest stand-by equipment whilst the burning takes place.

After burning and cleansing the bed the quality of the next year’s growth will show a marked improvement and will certainly be suitable for thatch; regular cutting thereafter improves the reed and the quality should be high. Having restored the reed bed to production no further burning or cleansing should be necessary. If at any time the annual growth is ‘sparse’ the crop can be left to be harvested the following year.
A marshman equipped with protective clothing and often working under difficult conditions can still be seen using a scythe, gathering the reed required for a bunch, raking out the butt ends, and removing unwanted matter and tying up, but this traditional method of harvesting does not attract new marshmen. In 1950 CoSIRA carried out experiments in cutting reed with a mechanical scythe. A large gathering box was installed immediately behind the cutting blade where the reed was collected and, when full, removed and laid to one side to be cleared and bundled. This process is now widely used and approximately 400 bundles per day are produced by each machine.

In the late 1960s CoSIRA introduced the Seiga' Reed Harvester imported from Denmark; this can be described as a mechanical harvester on very large tyres which make it amphibious. The machine produces bunches of reed at the rate of 2-3,000 bundles per day and recently more have been operating in England and Ireland. The latest model incorporates a transporter to enable the bunched to be taken immediately to hard ground.

Water reed quantities are not calculated by weight, but by bunch. The standard size bunch of home-produced reed is 600 mm in circumference, derived by measuring around the 'tie' which should be 300 mm from the butt-end. Imported Continental reed is delivered in a metre size bunch, determined by the same method.

Many new properties are being constructed to take thatch, with a preference for water reed. Supplies of this material were inadequate from the home market but the importation of water reed from the Continent has satisfied the demand.

Sedge (cladium mariscus) a marsh plant bearing a three-sided rush-like leaf with a fierce serrated edge, found growing chiefly in the fens and marshes of East Anglia, is used for ridging purposes. Its length and quality may vary according to the nature of the soil where it is growing, and it may, under favourable conditions, reach 6' (2 m) in length. Sedge may be cut all the year round and is very much better for handling when used in its green state, before it ripens and becomes difficult and even painful to handle. Using a long scythe against the lay of the sedge, the cutter often works under similar conditions to those found in a reed bed, having to contend with a certain amount of water under-foot. Having mown a swathe with his scythe, the cutter gathers the sedge together, and then because of its length, ties it with two strings into bundles which should weigh approximately 20 lb (9 kg). The method of cutting, however, may vary from place to place and occasionally one may see a sickle being used for this purpose, more especially when the sedge is much shorter in length. In this case a 'sheaf' or 'shove' - which in weight should average about 7 lb (3 kg) - is tied as the cutting operation proceeds, a few strands of sedge being twisted together to make a bond with which the sheaf is secured tightly round its girth. Bulk supplies are usually quoted at the prevailing rate for a score of sheaves.

As the sedge matures so it changes to a beautiful golden brown. Being very pliable in character, having an estimated life of twenty years, and with its pleasant colour, it is a most suitable material for ridging purposes. The finished sedge ridge with its hazel cross-sparring and clean-cut pattern is entirely complimentary to water reed, enhancing its appearance in tone and texture.

The Reed, A comprehensive study of the cultivation and harvesting of Phragmites Communis for thatching in East Anglia, by Dr S. M. Haslam of the School of Biological Sciences, University of East Anglia. The Reed is obtainable from The Norfolk Reed Growers' Association, Augustine Steward House, 14 Tombland, Norwich NR3 1HF.
The White Lodge, Attleborough, Norfolk

The Drum Inn, Cockington, Devon
Holly Tree Cottage, Sahouse, Norfolk

The Rectory, Woodbastwick, Norfolk

By permission of Mr. John Cattar
Water reed

Cutting with hook

Cutting with a short scythe

A ‘Mayfield’ reed cutter
A 'Seiga' Reed Harvester

An Italian rice harvester imported by Thurlow Nunn & Sons used for harvesting water reed in Holland and more recently in East Anglia

Cleaning the waste from cut reed

Tying with a reed bond
The reed, when delivered to the site, is stacked as near to the job as possible, and may be covered with a tarpaulin against bad weather conditions.

Grading will considerably facilitate the work to be done, and is usually carried out at the time of delivery if time permits. If not, it can be done in stages as the work proceeds.

Each bunch is butted on a spot-board and graded according to its length and quality.

The bunches fall into three broad categories, (a) long, (b) short, and (c) coarse. When laid in separate groups they are then ready to hand as required.

A simple method of carrying is used whereby a small handful of reed is bent forward to form a grip.