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## **chapter 11**

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**Fenland Peat**

PEAT-GROUND, bordered by high land on the south, east and west covers, broadly speaking, the Isle of Ely<sup>1</sup> and parts of the adjoining counties of Norfolk, Suffolk, Cambridge, Huntingdon and Lincoln. To the north it merges with the silt which extends westwards from Thorney to Guyhirne and then southwards, like a long narrow tongue, as far as Littleport along the old course of the Ouse as it once flowed from Littleport to join the sea at Wisbech. The area of peat shown on the accompanying map<sup>2</sup> (Fig. 1) is certainly greater than it is today for now, especially in the western Fens, clay has in many places replaced the peat while, on the highland boundaries, the latter has thinned to such an extent that it is now mixed with the mineral subsoil. It is in the Isle of Ely that the peat is still deepest and purest. Here are some 300,000 acres of it, varying in depth from a few inches to some 16 ft. and broken only by the extensive clay and gravel 'islands' on which stand the city of Ely and the towns of March and Chatteris, and such lesser 'islands' as those of Manea, Stonea and Shippea Hill.

The Isle provides us with the typical southern or black fen landscape: the land everywhere as flat as the open sea, the fields criss-crossed by dykes and drains, the roads dead straight as they run beside the embanked rivers and cuts<sup>3</sup> whose water level is higher than that of the road itself. Hedges are conspicuously absent; trees, apart from occasional poplars and willows,<sup>4</sup> few and far between; farms and cottages sparsely scattered. There are no villages on the peat, no churches and no burial grounds, no high buildings and no springs.

Fen peat, unlike its heather and moss-formed counterpart of the north, is made from decaying grass, rushes and sedge and is, for the most part, alkaline. When drained and ploughed it breaks down into a light-textured, soft, stoneless soil capable of growing the fine celery, potatoes, sugar-beet, cabbages, carrots, chicory and wheat which make the Isle of Ely one of the most fertile areas in England. These rich black lands, however, present, and have presented over the years, numerous problems and hazards not only to farmers but to all who are concerned with the building of houses, the construction and maintenance of roads and railways, and with drainage.

Paradoxically, the greatest threat to the future of these Fens, at any period, comes from the very material of which they are made. Fen peat can develop only when standing in or under water, so whenever and wherever drainage<sup>5</sup> is begun it begins to shrink and waste; the virgin fen drained by Vermuyden in the seventeenth century dropped

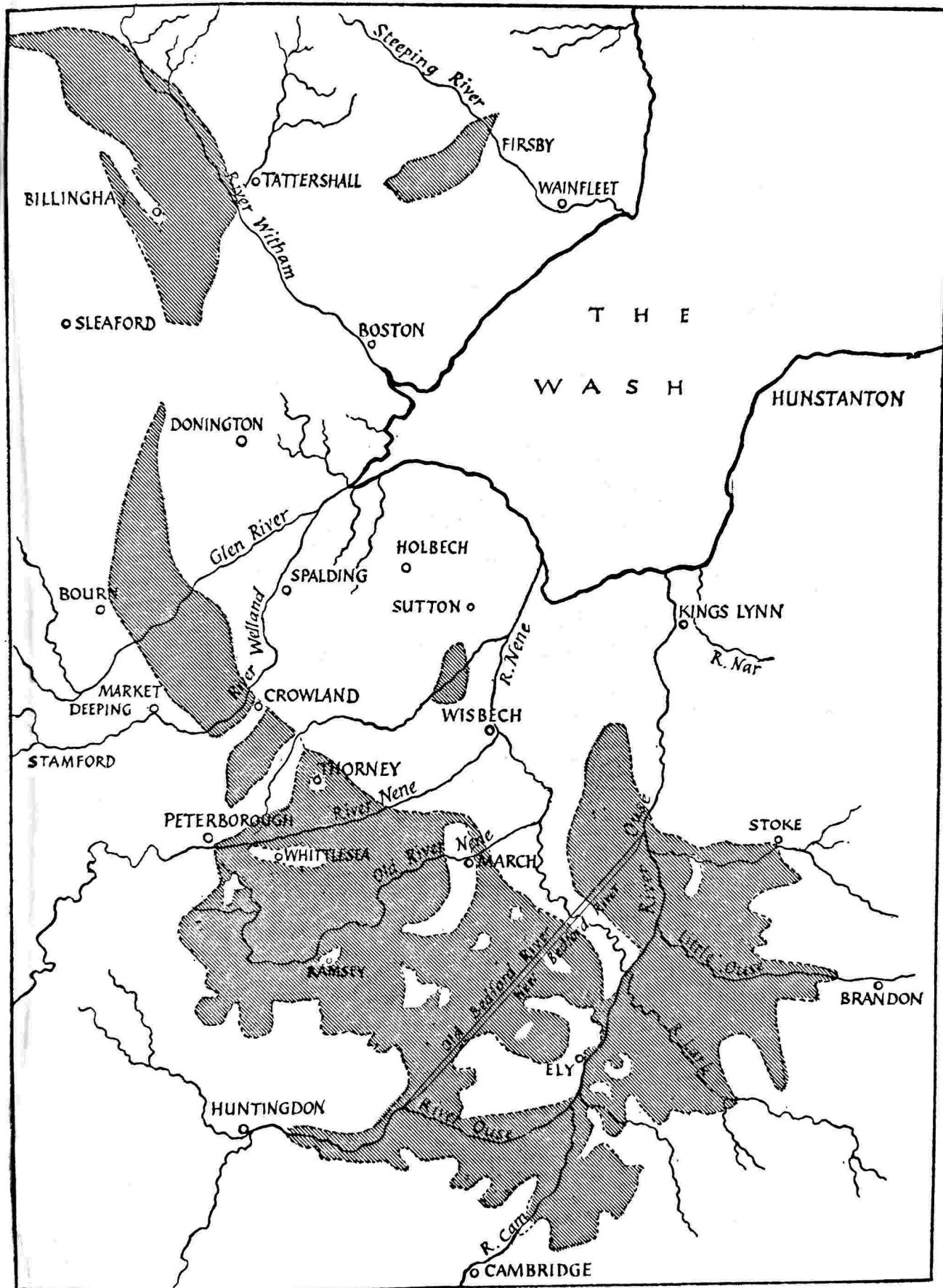


Fig. 1. The Fenland peat areas

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at least one foot in the first year. Dramatic evidence of this wasting can be seen near Holme in Denton Fen,  $4\frac{1}{2}$  miles south of Peterborough. In 1851, when Whittlesea Mere<sup>6</sup> was drained, an iron post from Crystal Palace, then being moved from its Hyde Park site, was driven 22 ft. down into the clay of the Fen beneath the newly-drained peat, and left level with the topsoil. Today this Holme post stands 12 ft. high. Three years previously, in 1848, Mr. W. Wells, of Holme, with the purpose of measuring the sinking of the peat, had inserted three wooden posts so that the top of each was flush with the ground. His posts showed that immediately following the drainage of the Mere there was a drop of 9 in. in the peat level.

Until the large-scale drainage of the seventeenth century the southern Fens were an inland sea choked with the floating vegetable matter we know as peat. Once drainage began the peat immediately lost the water which gave it bulk—and which had helped to form it—contracted and began to sink. When drainage had continued long enough for the peat fibres to dry then they were attacked by air-borne bacteria and, as they shrank and decomposed still further, they were washed away in the drainage water. In a vicious circle drainage itself was then affected, for as the surface peat wasted the amount of drained soil above ground level was reduced, with the result that the dykes had to be dug deeper to keep the roots of growing crops out of water; and all this continues today. Added to this was the effect of bodily removal of the peat. The fine particles, broken down by ploughing, were and are liable to be washed away by rain and flood; when dried by the sun they can be blown away by strong winds. A small amount of peat is lost each year through clinging to the roots of celery and sugar-beet as they are lifted from the ground but, in the past, a great deal more of it was lost through being dug for fuel, leaving acres of land too low to be drained efficiently by the systems then existing.

The cutting of peat—always called turf in the Fens—was well established by the twelfth and thirteenth centuries and continued until shortly before the First World War. In Burwell Fen and in nearby Reach and Wicken it developed into an industry, indeed the last turves from Reach were cut as late as 1937. The names Turf Fens, Poors Fen, which occur so often on the map, recall the turbarry<sup>7</sup> rights enjoyed by medieval commoners whose right of *fodicio*<sup>8</sup> was phrased thus:

to cut, to dig, to burn, to pare at all times at will, to give or to sell,

the right being usually reckoned by the amount of land that could be

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dug by one spade between 1 May and 1 August. In time commoners were forbidden to sell turves to outsiders and allowed to dig turf only for their own use.

The Report of the Charity Commissioners published in 1837 refers to the Poors Fens at Horningsea, Bottisham and Quy from which the poor, under the control of the Fen Reeves,<sup>9</sup> had an unlimited right to lift turf for sale in their respective parishes. The inhabitants of Chatteris and Doddington were allowed to cut turf from their Turf Fens, although the Commissioners reported that the land had, by 1837, been so much dug up as to be almost useless. From the Turf Lands of March the poor could dig turf only by licence from the Minister and Churchwardens, no person being allowed to extract more than 3,000 turves in a single year. In the parish of Snailwell turf could be dug on the Poor's Land for the villagers' own use but not for sale. The inhabitants of Soham, by 1837, were permitted to dig fuel on the Poor's Common only after giving security to the Drainage Commissioners; consequently, so the Charity Commissioners reported, 'the land is mown by the poor for fodder and stover,<sup>10</sup> on notice given by the fen-reeves,<sup>11</sup> when a violent struggle usually takes place to obtain the best portions'.

Spring was the season for turf cutting. The surface of the ground had first to be cleared by means of a spade with a heart-shaped blade called variously a *sharp-shovel*, *hodding-spade*,<sup>12</sup> *frog-mouthed* or *frog-nosed* shovel (see Fig. 2). Early examples have the blade set almost straight on the wooden shaft with its T-handle; in later ones the spade is given a forward cast by means of two bent tongues rising from the blade to take the handle and to make shoulders on which the user could put his foot as he pushed down into the top waste which, when loosened, was tossed aside with an ordinary shovel.

When the surface litter was cleared and the ground levelled a 40- to 50-yard-long trench was marked out and a *starting-cut* made with the long-bladed *turf-knife* (see Fig. 2) all down one side and along the end for about a foot. This completed, the cutter, working backwards and with boards strapped to his feet so as not to crumble the soft turf, began to use his well-sharpened *becket* (See Fig. 2), a tool which came into use in Isleham Fen, according to Dr Lucas,<sup>13</sup> in 1856 when it replaced the heart-shaped moorland spade formerly used. The wooden *becket*, shaped rather like a long-shafted thin cricket bat, 5½ in. wide, had its T-handle set over to the right and an iron plate at the tip of the blade with a flange on one side<sup>14</sup> projecting 4½ in. at right angles; this enabled both sides of the turf block to be cut to the required depth. Setting out from his *starting-cut* the



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worker began his pit, three turves wide and just over a foot deep, easily dislodging each turf since the face and one side of it were already freed, and deftly lifting it on the becket's face and placing it on the side of the pit.

When he had travelled to the end of the trench the cutter turned and worked back again, cutting another trench three turves wide beside his first, the starting-cut this time being the open side of the

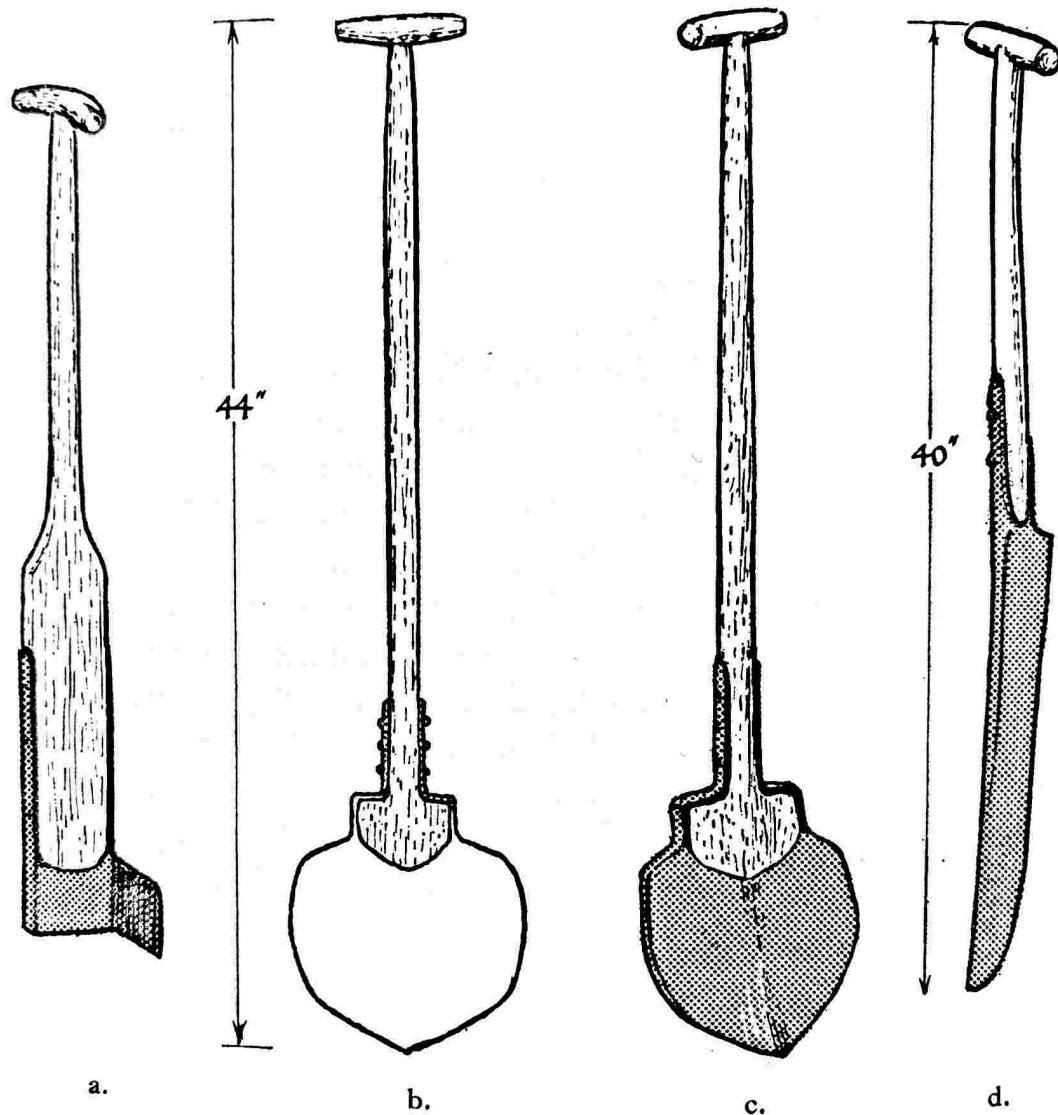


Fig. 2. Turfcutter's tools.

a. Turf Becket b. Turf spade. c. Sharp-shovel or hodding-spade  
d. Turf-knife

first one he had made. The process was repeated, a second and sometimes a third spit being taken out below the first depending on the depth of the peat and on how much water seeped into the trench. Gradually the fen was cut by parallel pits, a strip called a *straddle*<sup>15</sup> being left between each to be worked the following year. The pits were roughly filled in with the soil and litter which had been removed.

The usual wear of the turf cutters consisted of cord or fustian trousers, flannel shirt and, since the spring winds in the Fens can be chilly, a soft-brimmed felt or linen hat. Jackets and waistcoats were discarded while working. Boots, as for all out-door occupations in the Fens, had to be strong and waterproof. The most usual type of Fen boot was of thick leather with soles either of the same material or of wood. It laced up from about three inches from the end of the vamp to well above the ankle and had three tongues. The first of these, stitched to the vamp, was of soft leather so as not to rub the wearer's socks into holes; above it came one of tougher leather, this being stitched right to the top of the boot to form a watertight gusset. Finally came a third tongue, of yet stronger leather to resist the chafing of the thick leather thongs used as laces. Such hand-made boots, being expensive, were handed down from father to son and were patched and repatched many times. The wearer originally chose them of at least one size too large so that he could stuff hay into the toes to keep his feet warm and dry.<sup>16</sup>

The lifted turf was stacked in open walls with plenty of air spaces between the blocks to allow for drying by wind and sun which caused the turves to shrink from their original length of 14 in. to 10-11 in. by 4 in. wide and 3 in. deep. A good worker could cut up to 3,000 turves a day if he had a boy to help him to clear away the waste and to stack, and could earn 1s. to 1s. 6d. a thousand. Women often assisted in the drying of the turf which had to be turned at least twice in the summer months.

The cutters, if they lived near by, returned home in the early afternoon<sup>17</sup> having worked since daybreak, but many of them walked five or six miles to work on the Monday morning and spent the rest of the week in huts built out of sods cut from the fen, thatched with reeds and with a rough hearth on which, of course, turf was burned.

In autumn the turf was ready to be carted. Broad-beamed turf barges, generally towed by fen-bred donkeys, brought planks, trestles and barrows to the lode<sup>18</sup> side. The turf barrows, the bottom and high front of each made of wooden staves but with no sides and with a single wheel, were lightly built as they had to be pushed along planks set up on trestles over dykes and ditches. When loaded the barges set off to the hythes<sup>19</sup> in the marginal fen villages round Burwell and to Cambridge where the turf was stacked in the merchants' yards until sold for winter use. It was sold by the 'thousand' and not by weight since the size of a block could be standardized whereas its weight could fluctuate on account of the absorbent nature of peat. A 'thousand' of Burwell turf, however, contained only 600 pieces, that

being the number to a ton (the approximate weight of a 'thousand') cut by Burwell *becket*. In Isleham Fen a smaller *becket* was more commonly used which did, in fact, cut 1,000 blocks to the 'thousand'. The earliest recorded<sup>20</sup> price of turf sold in Cambridge is in 1334 when a 'thousand' cost 1s. 2d. At the end of the last century the price had risen to round about 10s.; the toll levied on a 'thousand' by the Conservators of the River Cam in the eighteenth and nineteenth centuries was one penny.

Turf was the universal fuel burned in Fenland homes until early in this century and the fires were generally kept in day and night. In many houses it was customary on each May Day to transfer to the kitchen or backhouse hearth the fire which had been burning in front or 'best' room since 1 October; the room was then cleaned and kept closed throughout the summer except for such events as a wedding or a funeral or when the chapel preacher came to tea. Although Fenmen have long been known as *yellow-bellies*<sup>21</sup> there is no record of the nickname having been gained, as in Amberley, Sussex,<sup>22</sup> from the practice of sitting too close to a turf fire.

Turf had to be quite dry to burn well when it gave out a good steady heat and burned to a creamy-white ash. A form of turf called *chub*<sup>23</sup> was dug in some parts of the Isle of Ely, notably north of Littleport, and on the Norfolk borders; most of the tied cottages could obtain free supplies of it. It was obtained by digging a trench with an ordinary shovel and then prising out huge chunks of the hard, earthy black *chub* which, like turf, was stacked in walls, turned two or three times during the summer and then carted by horse or donkey or in barrows to be piled near the house. Before the wet weather set in the stack was covered with straw or reed. *Chub* was so hard by the time it had dried that it had to be split with an axe; it gave off a fierce almost flame-less heat, very pale smoke and burned to a chrome-yellow-ash.

Blacksmiths in the villages and in Cambridge bought turf to use when tyreing wheels—and they were almost the last regular customers of the merchants—and some brickmakers, such as H. A. & F. Swann of Cambridge, bought it until supplies from Burwell began to dwindle *c.* 1912. They found it excellent for the initial firing of their kilns. In the fourteenth and fifteenth centuries the Cambridge colleges used turves extensively, but Rogers<sup>24</sup> records that after 1450 'they are almost entirely disused'.

In Burwell Fen, the centre of the industry, turf digging became a highly profitable business for those who owned turf rights on their own land or could afford to rent land to dig. A turf merchant, when he



bought the rights on another's land, contracted to remove turf to an agreed depth within an agreed period after which the land reverted to its owner. Most of the Fen was cut at least once, some of it three or even four times,<sup>25</sup> with the result that, by the 1930s, two-thirds of it was so badly drained and so marshy that farmers could scarcely get a living out of it.<sup>26</sup> Nearly a hundred years previously the Burwell Fen Drainage Commissioners had raised a £12,000 mortgage with which to drain the Fen; the turf merchants contributed nothing towards this but added rather to the deterioration of the land by their extraction of the peat. The high drainage rates of the farmer today and the labour that many have to expend in filling in the old turf pits are a bad legacy of the turf trade of yesterday.

A former industry of the peat fens, again especially important round Burwell, Reach and Wicken, but one which did not have the ill effects of turf digging, was the gathering of reeds, litter and sedge. The reeds were cut in winter, after frost, with a long-handled reed hook or, if they were stiff with frost, with saw-edged sickles. The cutters worked from flat-bottomed boats or stood knee-deep in the water at the lode-side;<sup>27</sup> they wore leather thigh boots or the shorter Fen boots, with sacking tied round their legs if the cold was severe. The sheaves, when cut, were laid together, tied in bundles and then stacked by the waterside until the barges came to carry them away to be used in thatching.

Litter, a tangle of flowering marsh plants and rushes, was cut with the scythe in July and August and carried on long poles to the stacks or to the donkey-towed litter boats which carried it to the village hythes<sup>28</sup> to be bought as bedding for cattle. When chopped with a chaff cutter it made a feed for horses.

Sedge, the main uncultivated crop of the Fens, was gathered in autumn and used as thatching material for barns and cottages, as bedding for cattle and for fuel. As he worked away with his short-handled, curved knife the cutter had to protect himself against both the chill damp of the fenland autumn and the sword-like leaves of the sedge. Sacking round the legs, or leather gaiters if the cutter possessed these, and old stockings or pieces of cloth wrapped round the arms saved the worker from cuts; Harper<sup>29</sup> describes men he saw at work who were wearing waistcoats made of calfskin. The mists which lay low over the Fens in autumn were feared as harbingers of the dreaded ague; many sedge and reed cutters, therefore, protected their mouths by means of a handkerchief tied over them.

Sedge made a durable thatch because its sharp edges prevented rats from finding their way into the roof or birds from building in it.

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As a fuel it was largely used by bakers to heat their brick ovens; much of it was sent to Cambridge to be stored in the Sedge Hall<sup>30</sup> which stood, until 1924, on the Quayside near the Great or Magdalene Bridge whence it was sold by the 100 bundles. Rogers<sup>31</sup> quotes the price, up to 1540, as 20s. 6d. per thousand and says that it was then the 'principal kind of fuel used in the Cambridge Colleges'. From 1654 it disappeared from college accounts and Rogers, writing in 1865, says that he could find no one who could remember its use.

As kindling, however, sedge continued to be used, both in the colleges and in Cambridge houses, until at least the 1840s,<sup>32</sup> the poor of the town earning a living by tying it into bundles for retail sale. In the colleges the sedge was stored in lofts ready for the bedmakers' use; the women wore thick leather gloves when handling it, many of them made, until the early eighteenth century, in St John's Street, then the centre of the glovers' trade. Thomas Case,<sup>33</sup> describing his days as a King's College Chorister from 1836 to 1848, refers to the Sedge Garrets of Gonville and Caius College and to the bedmakers who 'had to provide an annual stock of Sedge sheaves . . . and tie them into wisps . . . supplied to the occupiers of the several sets of rooms and paid for with other fuel'. Sedge was also used, until the 1880s, for covering the tops of bricks as they dried in the brick-makers' yards, and many Cambridge houses still bear proof of this in the transverse scratches made on many of their bricks by the sharp-edged leaves.

The internal drainage of the peat lands of the Fens depends on a complicated system of dykes, drains and cuts<sup>34</sup> which not only had, and have, to be made but to be kept free from weeds and plants. Powered drag-lines can do much of this today, but in the past both the digging and the roding<sup>35</sup> or cleansing of dykes had to be done by hand. The dyke diggers—usually known as *dykers* or *toolmen*—worked in gangs or long lines of men, each line lifting the shovelfuls of clay to another line above them and so on until the men at the top of the trench were reached.

Heavy fen boots or, better still, thigh boots were necessary wear, and durable trousers of cord. *Slops*,<sup>36</sup> smock-like garments of thick, coarse linen drill, with three-quarter length sleeves and tied at the waist with string, were also worn while *chummy hats*<sup>37</sup>—round, soft-brimmed hats of coarse linen—protected the workers' heads from the sun, for dyke-digging was a job for spring and summer.

The heart-shaped *hodding-spade*<sup>38</sup> (see Fig. 2) of the turf cutter was used to pare down the side of the dyke, used by a man who stood on the top and worked the spade in a thrust-down, heave-up motion

which left the sides as smooth as planed boards. The digging tool was a T-handled spade (see Fig. 3), of seasoned willow, which was light in weight yet could cut through the heavy gault clay as though through butter. The cutting edge was hardened by being charred in the fire and further protected by a coat of red lead paint reaching half-way up the blade. A wooden scoop or *rimmer* (see Fig. 3) also of willow,

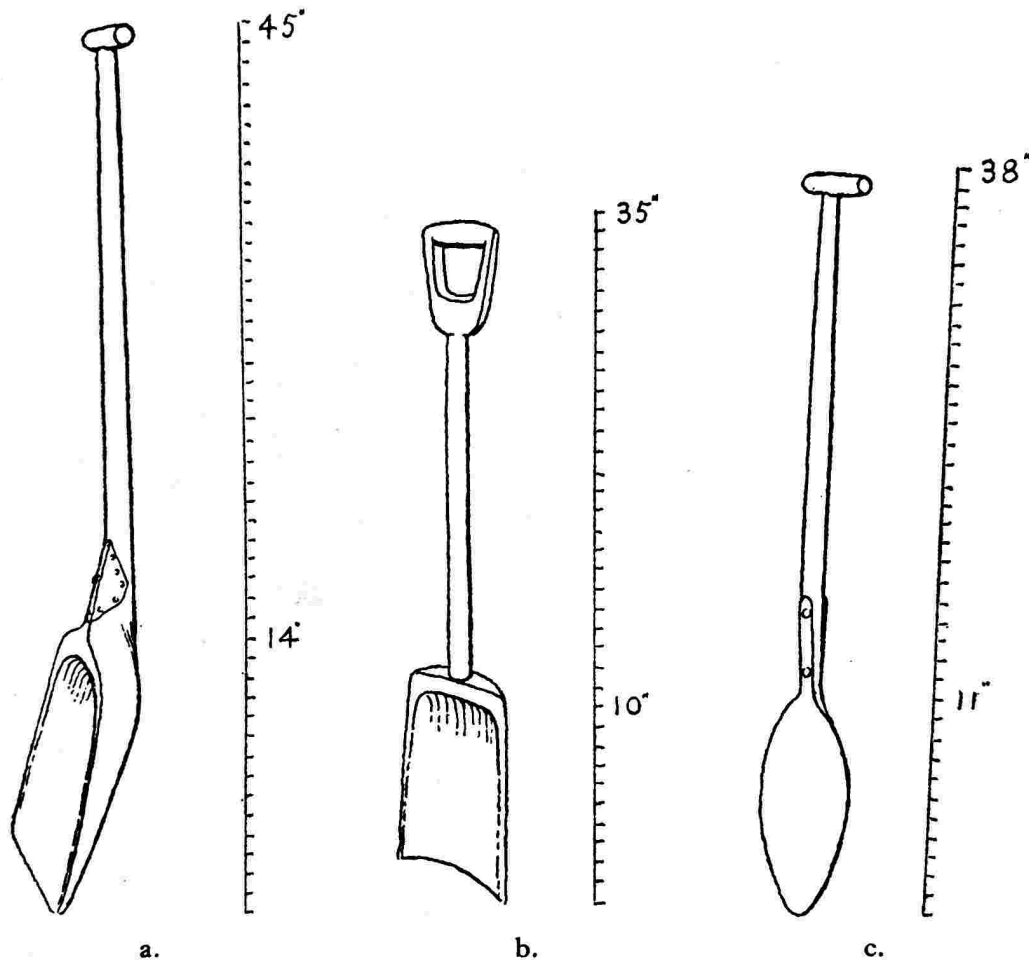


Fig. 3. Dyker's tools.

a. Claying-tool   b. Rimmer   c. Matting tool

and used for scooping out the water which flowed in, was the third tool used. Most of the *toolmen* lived in little wooden shacks scattered about the Fens and for which they paid little rent because the dwellings were owned by the drainage commissioners who could claim the toolmen's services in times of threatening floods. These primitive little shacks were easily replaceable when, as often happened, they were swept away by flood waters. Dyking was an inherited craft, son following father and taking over his boots and tools, even the half-gallon, brown earthenware beer jar which was carried on a cord round the neck.

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The *roding*<sup>39</sup> of dykes was done in winter with a long-handled scythe which cut the reeds which were then dragged out by means of a long rake. A spade with a narrow oval iron-shod blade, called a *matting tool*<sup>40</sup> (Fig. 3) was also used for dyke cleansing, especially for cutting through the mass of closely woven reed and sedge roots which covered the dyke sides; it was also a useful tool for reclaiming waste fen. *Roding* was a hard and precarious task for severe frost meant that no work could be done.

Among the hazards which nowadays face the farmer on the peat are dust storms or *blows*. These come mostly in April and May after a period of fine, dry spring weather. Strong winds, sweeping across the hedgeless fields, scoop up the fine soil with all the fertilizer and newly-sown seed that it contains, and deposit it an inch or more thick on roads, on and into houses, on railway tracks and, most serious of all, into drainage dykes, filling them in a few hours level with the ground on either side. Often a farmer has to sow his beet seed two or three times, a serious waste of time, money and labour, or he may find later on in the year that he is harvesting the wind-blown crops sown by his neighbour. The expense of cleaning the dust-filled ditches, a task which must be set in hand immediately, can be enormous.

Although *blows* have been known since the end of the last century—there was a serious one, for instance, in 1895—they seem to have increased in number and severity over the past thirty-five years<sup>41</sup> and scarcely a spring now passes without at least one occurring. They are caused by the very nature of the peat which, being so fine and light, is at the mercy of every wind that blows. Trees, which might act as windbreaks, are difficult to grow in peat, especially the conifers which are best for this purpose; grass, too, which might help to weight down the soil, does not grow well in the peat fens except on the washlands.<sup>42</sup> Moreover, if more grass were introduced, and to be effective against *blows* it must have water at least six inches below it, this, with its implication of cattle-raising, would alter the whole pattern of farming on the peat. If the fine celery, potatoes, sugar-beet and all the other crops which at present bring so much prosperity continue to be raised, then alternative methods must be found for giving strength and body to the soil. One of these methods, and the most effective, is *claying*.

The mixing of clay with the surface peat has been a practice in the Fens since early in the last century. In many places the peat had by then already become so thin as a result of drainage that the underlying clay was often turned up by the plough and so mingled with the

topsoil; where this occurred the fertility of the latter was found to be much increased. Heathcote<sup>43</sup> ascribes the fortuitous discovery of the virtues of clay to one, appropriately-named, Captain Clay who, after emptying a drainage ditch, tipped its clayey contents on the adjoining black soil and was rewarded by a record crop. Certainly as early as 1811 agriculturists were urging the use of the 'excellent clay marl'<sup>44</sup> underlying most of the Bedford Level. Gradually the value of the clay came to be recognized, but it was not always possible to bring it to the surface merely by ploughing for often it lay too deep. An attempt to raise it mechanically was made, so Heathcote tells us, by a Mr Savage who invented a machine to lift the clay like a dredger; this did not work, however, so digging had to be the answer, and this became the established practice. In 1830, when Samuel Wells published his *History of the Drainage of the Great Level of the Fens called the Bedford Level* he described the digging as 'so very modern' that he found it difficult to give 'an accurate account of this singular process'. Twenty-two years later claying was so well established that J. A. Clarke<sup>45</sup> could write:

Within the past thirty years the system of digging and throwing up this clay where it is too deep for the plough has been introduced into universal operation . . . farmers may be cautious of new improvements but this was too obvious for dispute, too near at hand for refusal.

The first farmers to clay the land merely dug holes haphazardly across the field, extracted the clay, then filled in the holes, a process which proved slow and laborious. It was the old *toolmen* or *dykers* who, by employing their dyke-digging methods, showed how the clay could be extracted more quickly and cheaply and, in so doing, ensured for themselves a weekly wage during the winter months when dyking was impossible owing to the high level of the water in the Fens. In a short time they came to look upon themselves as superior to the ordinary farm workers since they could state their own price for the work they did.

They brought to clay-digging the tools they used for dyking: the wooden scoop with its foot-wide bowl, 3 in. thick, and its 15-in. long handle, for baling out any water which might hinder digging; and the large wooden spade or *claying-tool*, colloquially known as a *witch*. The latter was kept well polished with linseed oil so that the heavy clay slid easily off it.

For claying as for dyking boots were an important part of the worker's outfit, and here again the wood- or leather-soled thigh boots



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of stout leather were preferred. A good pair of these might cost, in the 1890s, up to £3, a heavy expense for a man earning only 12s. a week. So they were handed down from father to son and it was not unusual for the local cobbler to be asked to repair a split seam or put a waterproof patch on a pair of thigh boots which his grandfather had made. Many bootmakers in Ely, Soham and Cambridge demonstrated the waterproof qualities of their products by standing them in bowls of

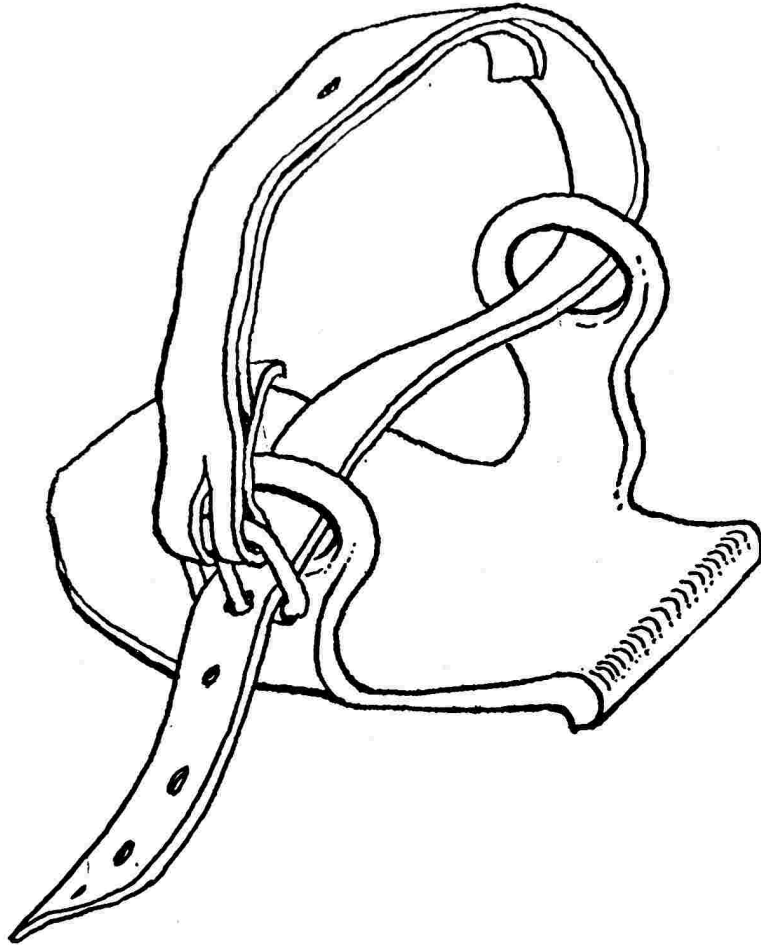


Fig. 4. Digging iron

water set in the shop window. To protect the sole of his boot when using the spade the *toolman* wore a stirrup-shaped *digging-iron* (Fig. 4).

On arrival at the field to be clayed the workers stripped to the waist and put on the *slops*<sup>46</sup> and *chummy hats*<sup>47</sup> and the thigh boots, all of which they had brought with them in a sack; the doffed garments were then buried in the sack in a hole at the side of the field so that they would be

warm and dry at the end of the day. Work then began.

A trench, or *dyke* as it is usually called, 2 ft. wide and about 9 ft. long, would be dug<sup>48</sup> with the spade about 2 ft. from the dyke which invariably formed the boundary of any fen field. When the soft buttery clay was reached at a depth of from 4 to 8 ft., it was lifted with the *claying-tool* and piled in heaps on each side of the trench. Each heap was known as a *hole* and the *toolman* was expected to throw out twenty *holes*, approximately of one ton each, in the day for his 2s. 6d. wage. When the end of the field was reached by working in three-yard stretches, another trench was started about eight yards from the first and so on right across the field. Work stopped for *docky*<sup>49</sup> when ten *holes* had been thrown, the *toolmen* eating hurriedly and wearing

their overcoats for fear of getting 'set fast' by the cold after their exertions.

By half-past two in the afternoon the skilled clayer reckoned on having completed his<sup>50</sup> stint of twenty *holes*. He then removed his *slop*,<sup>51</sup> put on his flannel vest and shirt, waistcoat and jacket, changed into his ordinary boots and, stuffing his thigh boots with hay, placed them in the hole where his clothes had been during the day, and covered them with soil. Next morning he would find them dry and warm.

Frost was not allowed to hinder claying; if the topsoil was too hard to dig then it would be undermined as each stretch of trench proceeded, the clayer throwing the lower soil behind him and leaving the frozen upper crust untouched. At the end of the trench he clambered out and jumped on the frozen topsoil until it collapsed. Clayers often worked in gangs or pairs, the more skilled man throwing the *holes* while his assistant<sup>52</sup> scooped out the water which constantly seeped into the trench.

After the clayers had finished the spreaders, earning 2s. 6d. a day, took over. With flat-tined forks they hurled great pieces of clay from the *holes* halfway across to the adjoining trench eight yards away, and such was their skill that each piece landed next to the one thrown before. In time the whole field was covered with clay which was left to crumble in the frost and rain.

Later came the task of filling in the trenches by means of a wooden plough drawn by three horses. A lad led the front horse and as each furrow was turned it fell into the now water-filled trench. It was a tricky job because often the trench side caved in taking rear horse, plough and ploughman with it. The filled *clay dykes* could prove dangerous, too, at the following harvest for if the boy leading the cart did not take care to keep the wheel in the depression which marked the site of the trench then loader and load could be overturned. 'Plumb<sup>53</sup> your clay dykes' was the first piece of advice given to a new boy coming to work on a clayed farm.

Claying became less frequently practised by the 1930s owing to the high labour costs involved. Now its value is being recognized not only as a means of increasing fertility but of preventing *blows*. Modern ploughs and drag-lines can extract the clay more efficiently and up to 400 tons can be spread per acre compared with the 200 tons of earlier clays. The effects are long-lasting.

The name Burnt Fen<sup>54</sup> which occurs many times on maps of the Fens recalls an interesting experiment to improve the fertility of the peat soil by the process of *paring and burning*. It was introduced to

Thorney in the seventeenth century by French refugees who had settled there and a contributor to *Fenland Notes and Queries* in 1892 said that he had last had the operation carried out on his Thorney farm as late as 1868.

In the months of May, June and July the huge tufts of coarse grass and rushes, called *hassocks*,<sup>55</sup> which covered the fen were pared away either by a breast plough or by the heart-shaped spade of the early turf cutter and dyker; the *hassocks* were then forked into heaps and fired. Later the ashes were mixed with the peat, as later on clay was to be, to give it mineral matter and solidity. Coleseed was usually the first crop grown after *paring and burning* to be used in the preparation of colza oil either in the single mill at Thorney or at Wisbech whence 1000 tons of the oil were yearly exported from the town's ten oil mills.

Burning the *hassocks* was a risky business even in the seventeenth century when water was still not far below ground level, for the underlying peat could, and did, catch fire. Even a chance spark could cause trouble and Gregorio Leti, writing in 1683,<sup>56</sup> tells us that the Thorney constable was forced to give orders 'that tobacco should not be smoked on the roads'. Peat fires remain today one of the hazards of fen farming and can easily be started by bonfires, by the carelessly-thrown cigarette end or the equally careless burning of dried grass cleared from dykes and drains.

In their initial stages the fires are not easy to detect for there is no flame or smoke, and because they can burn downwards and spread below ground level they are often hard to locate. Undetected they can burn for weeks, months or even years. They are difficult to extinguish, too, because the peat fibres have to be separated and mixed, almost one by one, with water right down to the underlying mineral soil. Fighting the fires can be further complicated by the firemen having to dig out huge red-hot bog oaks from the burning peat.

These buried trees—they include elms, oaks, birch, yews and firs but all are 'oaks' to the Fenman—remnants of the ancient forests of the region, constitute yet another problem for the farmer. They break ploughshares, delay land reclamation and hinder cultivation, for it is a long hard struggle to lift them out of the ground, especially as at times they can be found up to 80 ft. in length; occasionally they have to be blasted out. Their commercial value is small though, in the past, fenmen occasionally made small articles from the wood—candlesticks, walking-sticks and picture frames—mainly as an occupation on winter evenings. At the end of the last century a Littleport landowner used to get his estate carpenter to make small hall tables from bog oak as wedding presents for his friends, while a 67-ft.-long

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oak removed in 1961 from the Ouse at Adelaide has been made into a handsome Welsh-type dresser by a member of a Cambridge building firm who has also made billiard cues from the wood. Short lengths of bog oak can be seen serving as fencing on many fenland farms, while during the fuel crisis of 1947 some industrial firms from the north collected oak from the Fens for burning in their furnaces.

Peat soil provides the builder, whether of houses, railways or roads, with as many problems as it does the farmer. When the railways came to the Fens it was possible to put such stations as Ely, March and Chatteris on the mineral soil 'islands' on which these towns stand; at Black Bank, though, the station was on peat and had to be closed in 1962 because of the high cost of repairs when it collapsed through peat shrinkage. Piles and faggots have had to be used in the construction of much of the Fenland railway system and the effects of wasting peat are ever present. The soil under part of the Cambridge to Ely line sinks almost one inch in a year, so that here, as elsewhere, constant inspection and maintenance are required.

Although the construction of roads on the peat has always been avoided as much as possible by making use of the high land and 'islands', yet three roads<sup>57</sup> at least were built in the Bronze Age right across the then water-logged Fens. Oak piles overlaid with boughs formed their foundation, with a six-inch gravel layer on top. The causeways built in the Middle Ages to Ely and the other 'island' monastic foundations were all constructed on the peat and laid on piles covered with brushwood. Such early roads were kept in repair by means of bundles of rushes and reeds, an old fen technique for dealing with the thick black mud formed by wet peat soil. Until the beginning of this century rushes were laid thickly at the entrances to farms and stock yards and in the uneven hollows in the long droves leading from the main road to cottages and farms. The use of faggots as a foundation for roads continued until the Fens were drained in the seventeenth century and even today engineers have occasionally to resort to them.

The shrinkage of the peat which has followed drainage has continuous effect on roads; even main ones are liable to subside while the surface on many minor ones tends to have a switchback character.

No villages have been built on the peat with the exception of Benwick,<sup>58</sup> and even this, though it may appear from a map to do so, does not rest directly on the peat but on a silt spur or levee,<sup>59</sup> one of many in the Fens, called locally a *roddon*.<sup>60</sup> These *roddons* mark the courses of extinct Fenland rivers whose tidal waters deposited layer upon layer of silt which, since this mineral substance is not subject to



The roof trusses—these were often whole willow trunks—were laid on the inner wall so that the thatch, of reed or straw, overhung the outer and carried rainwater clear of the footings and along a narrow gully to drain into the nearest dyke or ditch. When willow was used for any timber work it was always adzed; to use a saw on the wood was considered unlucky because of the tradition that gibbets were made by bending forward the tops of two young willows, planted at the cross-roads, and grafting one to the other.

The simplest hovels contained only two rooms, never more than six feet high, divided by a wall of wattle and daub, the latter composed of clay and chopped straw. The single wide chimney was of bricks made on the site by baking clay in a turf-fired kiln, while beside the open hearth was a large brick oven at the top of which up to four or five children could sleep on straw mattresses.

The floor was made of a mixture of clay slurry,<sup>67</sup> chopped straw and cow dung kneaded by bare-footed women in a shallow pit; when dry it was damp-proof and as hard as concrete. The single door leading to the outside was of wood in two sections, the upper half being left open, except in very cold weather, to let in air and light, for there was usually only one window, wood-framed and paned with horn in early times, later with glass.

The outer clay-lump walls were given two or three coats of a wash made from crushed chalk mixed with salt to make it frostproof, the final coat being tinted a pale cream by the addition of ash from a turf fire. A pink wash was characteristic of *hovels* on the upland borders, while in the Littleport area the mixing of the deeper-coloured ash from burnt *chub*<sup>68</sup> with the wash gave a chrome-yellow tint. Older *hovels* were coated with pitch which prevented the clay from crumbling and birds from taking pieces of it for nest building. Most of these primitive *hovels* stood for 250 years until finally collapsing, generally because the weight of the thatch proved too much for them.

*Clay-bats* were easily made by the builder. The clay, together with chopped straw and, if possible, cow dung, was put into a large wooden trough and puddled with bare feet until it was of a dough-like consistency. It was then cut into rectangular slabs of no regulation size and dried in the sun and wind.

The brick houses of a century or more ago, even those of much more recent building, show plainly today the effects of wasting peat. In Benwick Street, for example, the houses lean backwards because the rear walls rest on a mixture of peat and silt while the front ones have beneath them the firm silt of the *roddon*.<sup>69</sup> Depending on the depth and position of the peat a house can tilt to left or right, back-



wards or forwards; door and window frames can become distorted, floors so uneven that every chair and table has to have a wedge placed under one leg or another; serious and dangerous cracks can open in walls and chimneys. There are houses where the front, or perhaps the back, door can no longer be used because there is now a drop of two or three feet from the threshold into the garden; when such houses were built there was probably only one step to descend. In Prickwillow Vicarage a flight of eight iron steps—the number has increased over the years—now leads from a french window into the garden, originally only one step below. Even some of the new concrete-based houses show signs of listing in one direction or another, especially if the chimney has been placed at the end of the house instead of in or near the centre.

It may be because the old builders realized the somewhat precarious character of their houses and because of the difficulties they encountered in building them, that many of them kept up, until early in this century, several of their traditional customs designed to protect the house and its occupants and the builders themselves during the course of their work. Before actual building began the workers were expected to contribute a penny or two towards the purchase of a gotch<sup>70</sup> of beer whose contents were poured on the site to avert any such hazards that might arise in the form of falling ladders, cracking walls, slipping foundations, bad weather and the like. At the same time the youngest boy on the job would have the back of his neck rubbed with a mixture of brickdust and water. Should a dark-eyed woman pass by and pause to watch the builders' progress all work would cease until she was safely out of sight, lest bad accidents result from her gaze; a blue-eyed woman, on the contrary, was considered a lucky omen.

Old builders often mixed a little soot with their mortar to prevent the devil from interfering with their work, and when they came to lay the second course above the fireplace arch they used to fetch blood from the local slaughterhouse to put into the mortar, thus ensuring that the future occupants of the house would be protected from harm and especially from witchcraft. If the owner of a house so wished, the last two courses of the chimney were built of salt-glazed bricks to prevent a witch from entering the building by that route. If tiles were used for roofing then salt-glazed ones were preferred, the salt again being a deterrent to any witch.

Thunderstorms can be severe and frequent in the Fens, so many old houses had built into the external wall on the right of the door a brick incised with three parallel zig-zag lines to avert lightning. The

## FENLAND PEAT

builder sometimes, and the house-owner certainly should the former not do so, planted a house leek on the roof to protect against lightning. As late as 1959 a man, moving from his collapsing peat-based house in the Isle of Ely to a newly-built council dwelling, carefully took with him a house leek from the old house to place on the roof of his new home.

One of the most common building practices was the insertion above the hearth of a layer of animal bones<sup>71</sup>—the leg bones of dogs, sheep and, especially, horses—between the courses of brick to protect the house from evil. One Fen builder, right up to the time of his retirement in 1910, as recorded by his nephew, never failed to build into any of his houses a bottle filled with bread and water so that the occupants should never suffer want or hunger. Coins, too, were often buried under the hearthstone so that those who lived in the house would never be destitute. In 1897, when the Primitive Methodist Chapel was built at Black Horse Drove, a horse's head, obtained from the knacker's yard, was placed in a pit in the centre of the foundations. A glass of beer from a two-gallon stone jar was poured on it and then, when the builder and his men had drunk to the success of their work, brick-bats and mortar, the latter composed of sand and plaster-of-paris, were shovelled over the head. Alas for these precautions, the chapel has now listed so badly because of peat shrinkage that it is shortly to be demolished.

Of all those who work on the peat of the southern Fens it is the farmer and the drainage engineer who have to face the greatest problems of this wasting, shrinking, over-cultivated substance. The ways in which the ever-constant threat of flooding has been and is being overcome are too complicated to be considered here; it is enough to say that the costly new flood relief works<sup>72</sup> of the past six years will, it is estimated, make the Fens safe for sixty years at least. The farmer, though, is still left with the problem of field drainage and its effect on the peat and on cultivation as a whole, and of course with the question of shrinkage. One Isle of Ely farmer and landowner, concerned by the rapidly-approaching end of the peat Fens as the fertile region they are now—he has given them only a thirty-year lease of life under present conditions—has now attempted to solve these problems.

Mr Arthur Rickwood<sup>73</sup> presented in 1963 to the Ministry of Agriculture and Fisheries one of his many fenland farms, that at Mepal, as a research station to be known as the Arthur Rickwood Experimental Husbandry Farm. On its 150 acres are three types of soil: mature peat to a depth of 36 in. above silty blue buttery clay;

medium peat 18-30 in. deep over the same clay and shallow peat, 12-14 in. deep overlying sand, this affording excellent opportunity for study.

Work on the farm is only just beginning but the programme now (1965) being carried out includes experiments and research in weed control and in the two great enemies of the fenland farmer: potato blight and eelworm. These will continue, of course, but the main research planned at Mepal, to begin in the autumn of 1966, will be the study of peat wastage and of how the peat layer can be phased into the mineral soil underlying it when the latter, through wastage, comes within reach of cultivation. Field drainage, too, will be an important subject of study.

The Director of the farm, in company with a soil chemist and a drainage expert, are to visit the Netherlands to see what work is being done on the wasted peat lands east of the Zuider Zee, where conditions and problems similar to those in the Isle of Ely occur. They plan, too, to visit the Dutch Peatland Experimental Station at Borgercompagnie where experiments are being carried out in soil phasing. The results of the work at Mepal will be of immense value to all those farmers who between them produce annually something like £20 million worth of the nation's food under constant threat of the land which produces it disappearing for ever.

## REFERENCES

1. The Isle of Ely was a separate administrative county until 1965 when it was merged with Cambridgeshire.
2. Based on that in *Fenland Past and Present* by S. H. Miller and S. B. Skertchley (London, 1878).
3. *Cut, drain, dyke, eau* are all names applied to the artificial drainage channels in the Fens. A drain is generally not embanked.
4. The number of these has decreased since the 1914 war when the timber was in demand for aeroplane building. The planting of new sets has been neglected.
5. See H. C. Darby, *The Draining of the Fens* (London, 1940).
6. The last remaining sheet of water in the Fens,  $2\frac{1}{2}$  miles long and with a maximum breadth of  $1\frac{1}{4}$  miles.
7. *Turbary*: 1. Land, or piece of land, where turf or peat may be dug for fuel; a peat-bog or peat-moss. 2. *Law*. In full, *common of turbary*: The right to cut turf or peat for fuel on a common or on another person's land (O.E.D.).
8. H. C. Darby, *Mediaeval Fenland* (London, 1940).
9. *Reeve*: Bailiff, parish officer, overseer (O.E.D.). The duties of the Fen Reeves were defined in 1575 P.R.O. Exchequer Depositions by Commission, E 134: . . . 'to see the Fennes and Marshes avoyded of Cattell at such daies as appointed, that the fennes be kept in good order . . . that the ditches, draynes, bridges and banks be repayred and amended. And that there be no incrochements or other disorders in the Commons.' H. C. Darby, *The Draining of the Fens* (London, 1940).
10. *Stover*: winter food for cattle. *Obs.* (O.E.D.).
11. See note 9.

# FENLAND PEAT

12. *Hodding-spade*, Forby, *Vocab. E. Anglia* (1825): A sort of spade principally in the fens, so shaped as to take up a considerable portion of earth entire, like a *hod* (O.E.D.).
13. C. Lucas, *A Fenman's World* (Norwich, 1930).
14. The flange can be on the left or right of the becket. Of four examples in the Cambridge Folk Museum three have the flange on the worker's left.
15. *Staddle*: A place marked out on the surface of a field by a groove or course of sods. *Obs.* (Wright, *Engl. Dial. Dict.*).
16. T. W. Bagshawe records that when in the Antarctic he and other members of the expedition stuffed 'sennegrass' (a kind of Norwegian hay) into their *finnesko* (reindeer-skin boots). It had the effect of absorbing foot moisture.
17. Outdoor work usually ceased in the early afternoon on account of the fenman's fear of mists and the night air with their threat of ague. Members of the National Agricultural Advisory Service coming to the Fens today from other parts of England have commented on the continuance of this fear in some fenland areas.
18. Cambridgeshire Lodes—they occur at Soham, Reach, Burwell, Bottisham, Swaffham and Lode itself—are short artificial waterways leading from the edge of the chalk south of Ely to the Cam and Ouse. Theories have been advanced that they are of Roman origin or were made as boundary markers in Saxon times.
19. *Hithe*, *hythe*: a port or haven; *esp.* a small haven or landing-place on a river. Now obsolete except in historical use, and in place-names (O.E.D.). The variant *Hee* occurs in the Fens: e.g. *Hee Lane*.
20. J. E. T. Rogers, *A History of Agriculture and Prices* (London, 1865), vol. I.
21. *Yellow-belly*: a native of the Fens of Lincolnshire; an allusion to the eels caught there (Grose, *Dict. Vulgar Tongue*) (3rd ed., 1796); 1847, *Halliwell*, yellow-belly, a person born in the fens of Lincolnshire (O.E.D.).
22. The people of Amberley, Sussex, were known as yellow-bellies because of the reputation that the women had of 'tucking up their skirts and warming their bellies against the (rush) peat fires'. Recorded by T. W. Bagshawe in May 1957.
23. *Chub*: defined by fenmen as *hardened peat*—more like wood than the usual friable fen turf; cf. *chub*: a log of wood (cp. Norw. dial *kubbe*, a block of wood, Sw. *kubb*) (Wright, *Engl. Dial. Dict.*).
24. J. E. T. Rogers, *A History of Agriculture and Prices*, vol. 4.
25. The *Charity Commissioners' Report*, 1837 records that the Poor's Fen at Burwell 'is used by the poor at large for digging turf, the surface being completely cut to pieces by them'.
26. Alan Bloom, *A Farm in the Fen* (London, 1843), describes his difficulties in draining part of Burwell Fen.
27. See note 18.
28. See note 19.
29. C. G. Harper, *The Cambridge, Ely and King's Lynn Road* (London, 1902), p. 199.
30. There was also a sedge house under the old Guildhall at Cambridge referred to in the sixteenth-century rentals and in a lease book of 1775.
31. J. E. T. Rogers, *A History of Agriculture and Prices*, vol. 5.
32. In some Cambridge diaries, 1839-44, now in the Folk Museum, are frequent references to the purchase of a pennyworth of sedge with each hundredweight of coal bought for domestic use.
33. Thomas H. Case, *Memoirs of a King's College Chorister* (Cambridge, 1899), p. 43.
34. See note 3.
35. *To rode*, in fen dialect, is to clean ditches of weeds; *rode land*, to the fenman, is land cleared of surface waste.  
*Rode. obs. rare* (probably a. Du. *roede* measuring-rod (10 ft. long). A certain length of dyke (O.E.D.).
36. The coarse fawn-coloured drill used for the *slops* was known as *slopping material*. It was also used for making jackets with large pockets for wear by vermin catchers and known as *slopping jackets*.
37. *Chummy*: a local word supplied by an Isle of Ely fenman to denote this type of soft-brimmed hat.
38. See note 12.



39. See note 35.
40. The name for this tool was supplied to an old fenman in 1960 when one was acquired by the Cambridge Folk Museum. He described it as already rare at the end of the last century.  
*Mat.* A tool for stubbing furze, ling, &c., a mattock (Wright, *Engl. Dial. Dict.*).
41. One reason advanced for this is the increase in the cultivation of sugar-beet which required deeper ploughing, weeding, hoeing, etc., all of which break up the soil. The blackness of the peat soil, which attracts the heat of the sun and so becomes dry, is also blamed for *blows*.
42. *Washlands*: the fen name for undrained, unploughed strips of rough pasture which are generally flooded in winter. Because the *washlands* are protected by the flood water from the air they are not subject to the wasting of the cultivated peat lands.
43. J. M. Heathcote, *Reminiscences of Fen and Mere* (London, 1876).
44. R. Parkinson, *The Agriculture of the County of Huntingdon* (London, 1813), p. 299.
45. J. A. Clarke, *Fen Sketches* (London, 1852), pp. 244-5.
46. See note 36. The word *slop* was also applied by fenmen to the usual agricultural smock, either with full or three-quarter sleeves and also to a short, sleeveless calico vest.
47. See note 37.
48. The fen expression used for the removal of the top soil to get to the clay was *undressing*.
49. *Docky*, also *dockey*. A slight meal, taken by farm labourers, in the middle of the morning (Wright, *Engl. Dial. Dict.*). A fen word for this meal is *tommy*, usually applied to the food eaten.
50. *Stint*: An allotted amount or measure (*O.E.D.*).
51. See notes 36 and 46.
52. The assistant could occasionally be a woman. A fenman records that in the 1870s his great-aunt worked with her father at claying.
53. *Plumb*: here means 'to keep in line with' (the clay dykes).  
*To plumb*: to measure depth by sounding.  
*U.S.* (colloquial): to trace or follow out a road (*O.E.D.*).  
A figurative meaning in the Fens of *to plumb one's clay dykes* was 'to lead a temperate, even life'.
54. The railway station at Burnt Fen near Littleport has been called Shippea Hill since the 1914 War when the original name, printed on sacks and labels, proved unpopular with Covent Garden merchants. In the same period sand was mixed with potatoes sent from the Isle of Ely to London because the merchants objected to the black soil.
55. *Hassocks*: 'hassocks in bogs were formerly taken up, shaped, trimmed and dressed . . . to make kneeling easier than on the pavement of the church' (Forby, *Vocab. E. Anglia*). See *Gwerin*, vol. 1, No. 2, Dec. 1956, for article by N. Teulon-Porter on church hassocks.
56. *Teatro Britannico*.
57. 1. From New Fordy Farm to near Little Thetford; 2. from Stuntney towards Ely; 3. from Barway towards the Ouse.
58. Three miles south-west of March.
59. *Levee*: An embankment to prevent the overflow of a river; 2. a landing-place, pier, quay (*O.E.D.*).
60. Alternatively spelt, as pronounced in the Fens, *roddam*. See Gordon Fowler, 'Fenland Waterways, Past and Present. South Level District' Part 1, *Proceed. Camb. Antiq. Soc.*, XXXIII (1933), for account of the formation of *roddons*.  
*Roddam*: silt ridge. *Roddamy land*: undulating land (Fen N. & Q., II (1892-4)).
61. *Holt*: small wood or copse, now only poet. or dial. (*O.E.D.*).
62. Author of *Tales from the Fens* (London, 1963) and *More Tales from the Fens* (London, 1964).
63. Wood from the Baltic countries came early to East Anglia, brought by sea to Wisbech and thence by river. Pine structural timbers are found in several seventeenth-century buildings near the river in Cambridge, e.g. in the former White Horse Inn in Castle Street, now the Folk Museum.