

MALTING AT HARSHFIELD.

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The main road from Bristol to Chippenham, the present A420, passes through Kingswood and Wick before climbing the Cotswold scarp at Tog Hill. Beyond lies a high flat plateau, deeply dissected by narrow valleys, on which stands the tiny medieval 'town' of Marshfield - really no larger than a village with one long High Street.

From the main road, which now completely bypasses the village, little can be seen of the nearby secluded valleys. On the western parish boundary lies that of St Catherine's Brook which flows south and provided sites for two of the parish water mills; another mill lay on the Broadmead Brook which flows east on the northern boundary - all have long since been disused.

The area has a long record of settlement dating back to Roman and prehistoric times, and has been the subject of a recent archaeological survey by V. Russett ⁽¹⁾ who included brief mention of the industrial archaeology of the parish.

The parish has never supported any industry which was not based on agriculture. The steep valley sides and lower, wetter, areas have rarely been ploughed since the strip lynchets were formed at some undated ancient period, and are still used for pasture and forestry. In contrast the flatter upland limestone areas form good corn growing ground and have long been ploughed. There is a history of sheep grazing and it has been claimed that, in medieval times the prosperity of the area was based on wool; certainly in 1608 four mercers and three clothiers were recorded in an adult male population of 147. There were, however, only three weavers.

A major local industry, of which there are records from the 15th Century, was malting. It is recorded that on 19th November 1458 a pardon of outlawry was granted to Richard Porter of Marshfield, "maltman", in not appearing at court on a charge of trespass. ⁽²⁾ Of the 147 adult males recorded in 1608, twenty two (ie 15%) were described as maltmen. Deeds for the locality held in Gloucester Record Office, some of which

date back to the early 18th century, refer to properties which included a malthouse, and frequently a brewery, in the environs of the house. Where the sites of these can be identified they provide interesting sidelights on the history of many of the houses in Marshfield and also locate maltings which are not recorded on the Tithe and other maps. The industry probably reached its peak in Marshfield in the 18th century, and was already in decline at the time of the Tithe apportionment in 1840 when 18 malthouses were recorded. The existence of 4 others is known, and more are certain to have existed.

The production of beer is based on the use of malted grain to provide a fermentable sugar source for alcohol and some of the flavour. Raw grain contains a high proportion of starch as a food reserve for the germinating plant, but before the embryo can make use of this it has to be converted into sugar by enzyme action. The purpose of malting is to utilise this natural process. The grain is encouraged to germinate and develop until the majority of the starch has been converted to sugar. The sprouting grain is then killed by heat and dried to preserve it. The grain generally used is barley, although other grains can be malted. It was probably the high quality of the barley that could be grown on the shallow soils of the southern Cotswold uplands which led to the early development of Marshfield as a malting centre.

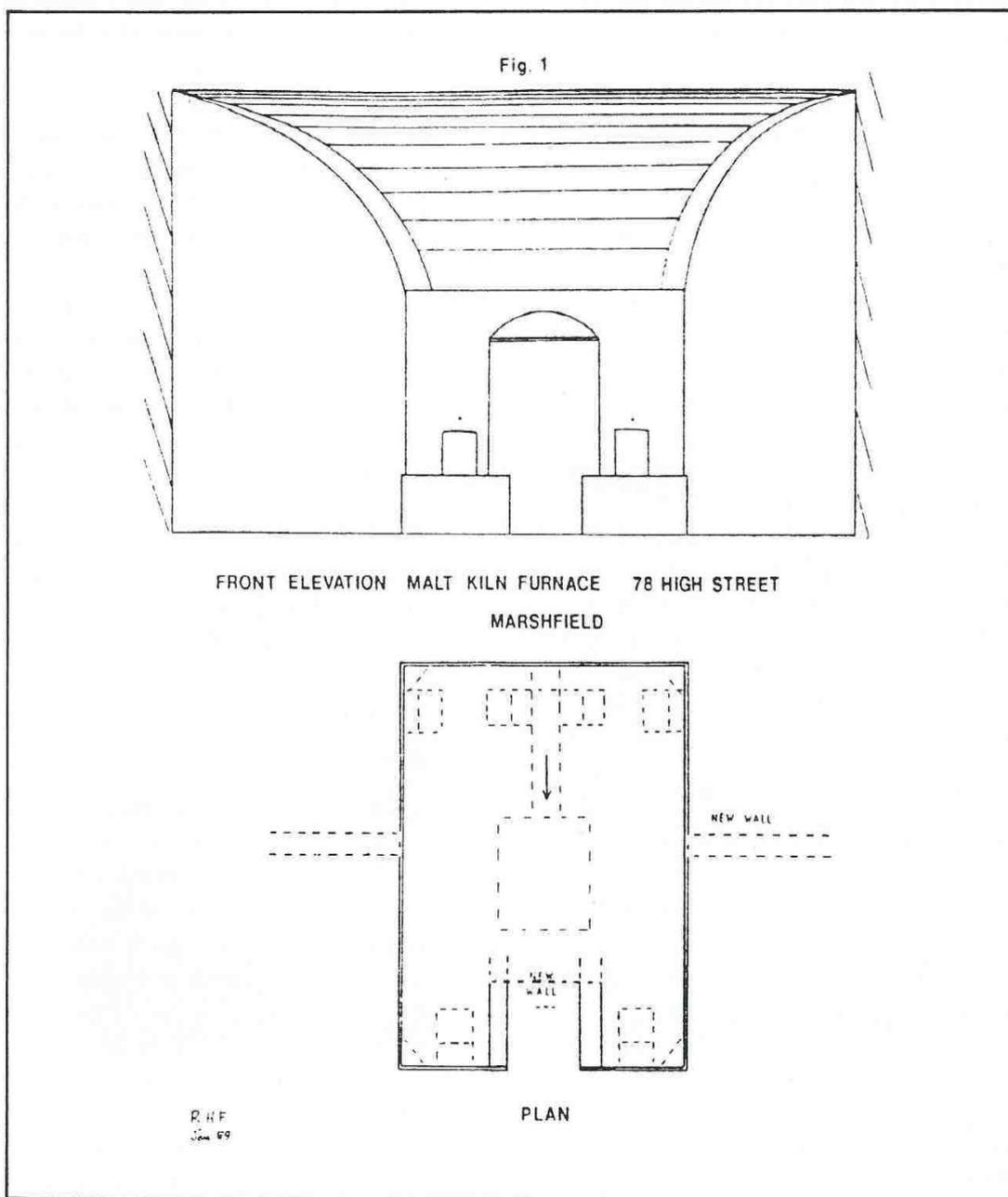
Malting tended to be a seasonal occupation carried out during the less busy agricultural period after harvest to the following spring. The "maltmen" could readily find employment in the farms and fields through summer and harvest, although in some areas brickmaking was an alternative.

The facilities necessary for malting included suitable areas for dry storage of both raw grain and finished malt, a vat in which the grain could be steeped in water, floors on which the dampened grain could be spread to germinate, and a kiln to heat and dry the malt. During the 19th century maltings were developed elsewhere to

produce malt on a very large scale, but there is no evidence of this happening in the Marshfield area where even the largest known maltings were on a very small scale. The buildings were generally attached to a house, frequently with the kiln next to the dwelling to provide warmth during the cold weather. There were usually at least two floors on which the grain could be spread to germinate - these had little headroom and were ventilated along the sides by a number of openings, frequently equipped with systems of shutters to allow fine control of ventilation. These openings tended to be fairly small as good air circulation rather than light was required. The kiln, generally at one end but sometimes centrally placed, was distinguished by the characteristic vent in the roof to allow the heated moist air to escape.

The extent of the 18th century malting industry is no longer apparent in Marshfield. Two or three malthouses still remain with malt floors intact. No steeping vat has been discovered so far and only two kilns. A third was demolished early in 1988. Those sections of the buildings that included the working floors have better survived as they are suitable for conversion to other uses such as storage or dwellings, although new flooring may be required to give adequate ceiling height.

An interesting reverse conversion took place many years ago at Weir Farm, once the site of the principal brewery in Marshfield, whose owner - Henry Woodward, member of an old established family of maltsters and farmers - became bankrupt in the 1880's following the bursting of



a large vat which released the beer across the road and down the valley! At the west end of the present, largely 18th century, farmhouse can be seen the front and side walls of an even earlier 17th century two storey farmhouse, well built of ashlar stone. At some time after its replacement it was converted into a three storey malthouse with a kiln, now demolished, added at the rear. It is thought that the malthouse use ceased about 1900 after a final period in operation by a Dyrham firm. New College, Oxford, the Landlord's at the time are said to have removed the roof to use it for repairs to other property in Bath when they sold the farm at the turn of the century.

The last malting in Marshfield was carried out, about 1920, at No. 78 High Street by Thomas Wayte Knight whose grandson, still living locally at Westland Farm, can remember something of it, but was too young at the time to know details of the process. These were, in any case, likely to have changed somewhat from those in practice before 1880, when the tax on malt was repealed. The imposition of the tax in the 17th century had required an Excise Officer to measure the volume of the grain at the start and end of steeping in order to assess the tax due, with a legal requirement for the use of measured containers at these stages. The 'couch frame' or temporary store bin used to await the second measurement tended to pass out of use after the tax was repealed as germination of the damp grain became erratic if left too long in an unspread heap.

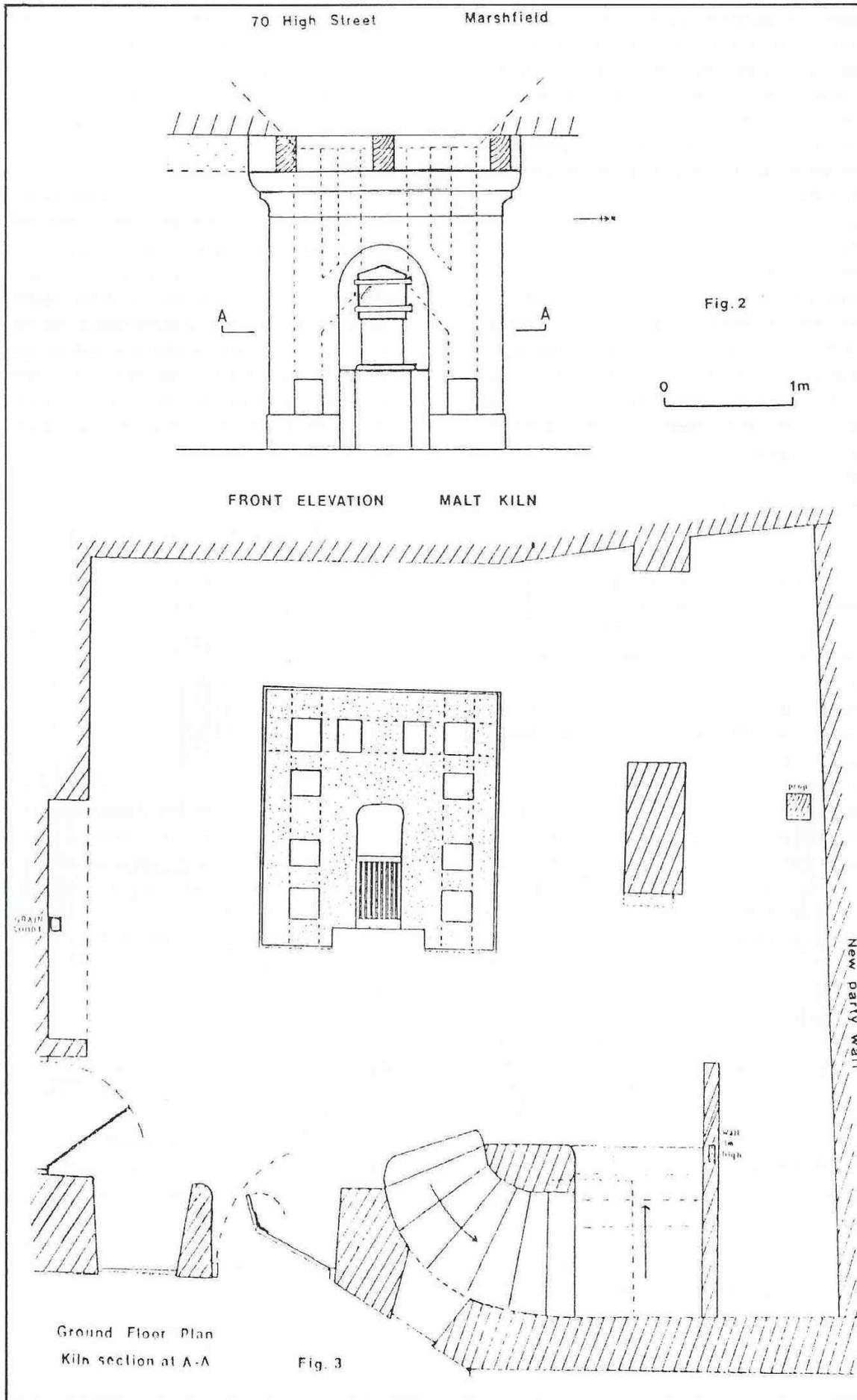
The former importance of Marshfield as a malting centre can be judged. by the presence in the village of two Excise officers at one time. There are many tales of the existence of peepholes to watch the movements of the Excise men and the devices to avoid full payment of tax. The malthouse at 78 High Steet 'The Malting House' still stands. The working floors are now used as a store and have not been seen. The kiln furnace still stands in between the working floors and the house but now supports two bedrooms above. Their floors are about four feet (1.22m) above the house first floor level and are reached by a flight of steps. The walls of the malthouse and dwelling are built of two feet (0.61m) thick rubble masonry, but those of the kiln drying floor are four inch (0.1m) ashlar. The drying (now bedroom) floor is supported by characteristic half arches springing from the furnace block and extending to the surrounding walls.(fig 1)

The most complete kiln known to survive in Marshfield is at 'The Court House', 70 High Street where, five years ago, the malthouse attached at the rear also survived in a derelict condition. The working floor area has since been sold for conversion into a dwelling, 'The Maltings' in Touching End Lane, with modification to the original floor levels. The structure incorporating the furnace has been re-roofed, with elimination of the vent, but the kiln is otherwise vitually intact and, through the kindness of the present owner Mr Bruce Williams, has been surveyed.

There is nothing now visible from the public road to indicate the existence of the kiln, which is accessable only through the house. Little is known of its age or history. The owner at the time of the Tithe Apportionment was Thomas Huff, possibly a member of a family of maltsters because William Huff (who died in 1840) is recorded as having a malthouse at No.74 High Steet. This is on the other side of Touching End Lane where a building still stands beside the road which could have been another malthouse, and is now used as a store and garage.

The kiln has been seen by Amber Patrick who considers it may well date from the late 18th century. There must have been a major rebuilding in the 19th century when the use of secondary air ducts and disperser plates, for better control of temperature, were introduced. It is very unusual in two respects, the drying floor is supported by heavy stone slabs resting on horizontal stone beams (fig 3), and the perforated flooring tiles were laid on a framework of freestone joists with no ironwork (figs 3 & 4).

The furnace on the ground floor consists of a six feet square freestone block structure containing the firespace at the front. This is in a slight recess and has an open front above the grates with a door above. The flue passes up the centre of the block. At each corner there are three air ducts, about eight inches square passing up from horizontal channels through the block on each side and at the rear (figs 2 & 3). The top of the furnace is finished by a nicely shaped cornice on each side, which increases the top area to seven feet square. This top also provides increased support for the beams and slabs which carry the base of the structure

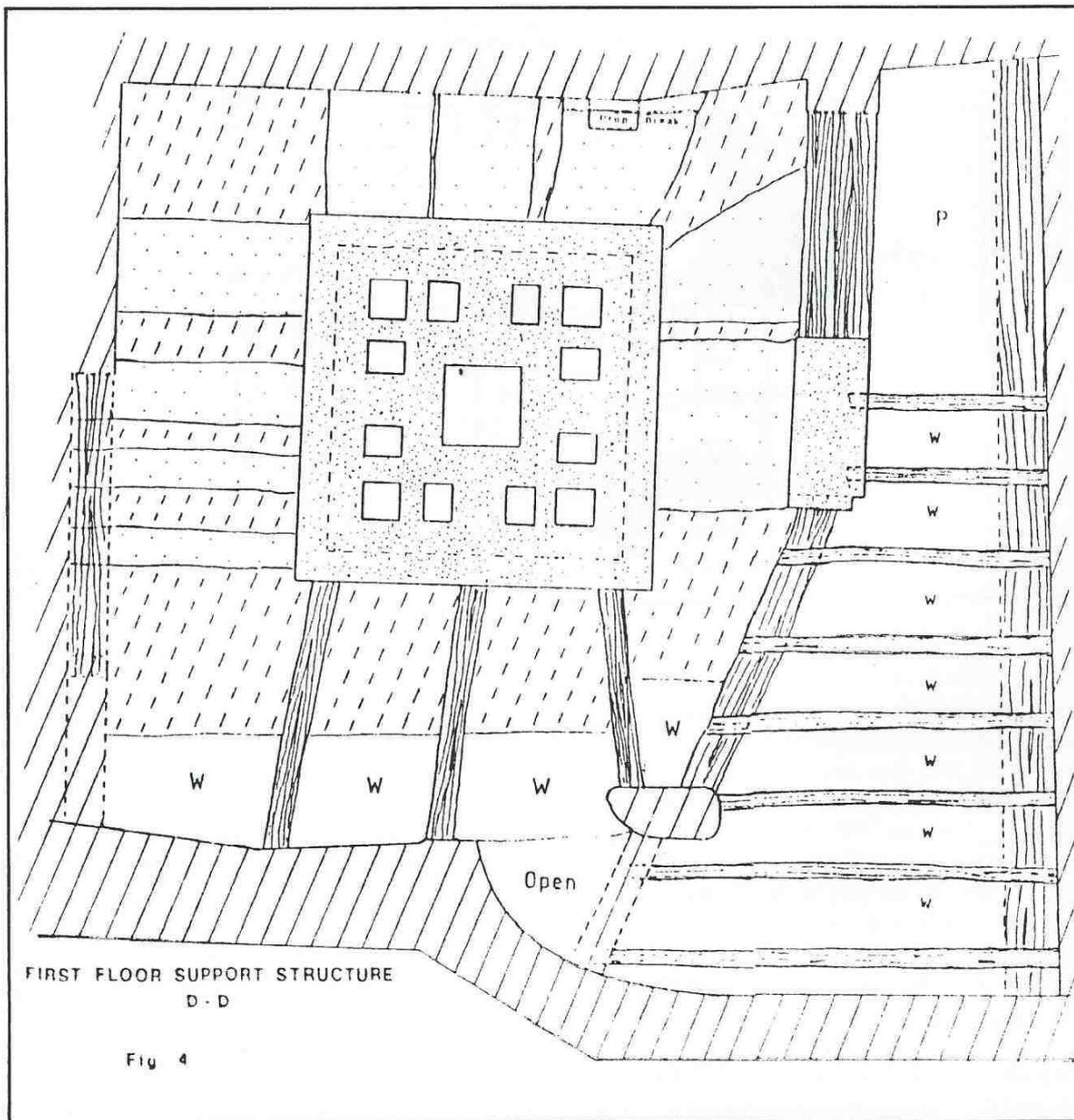


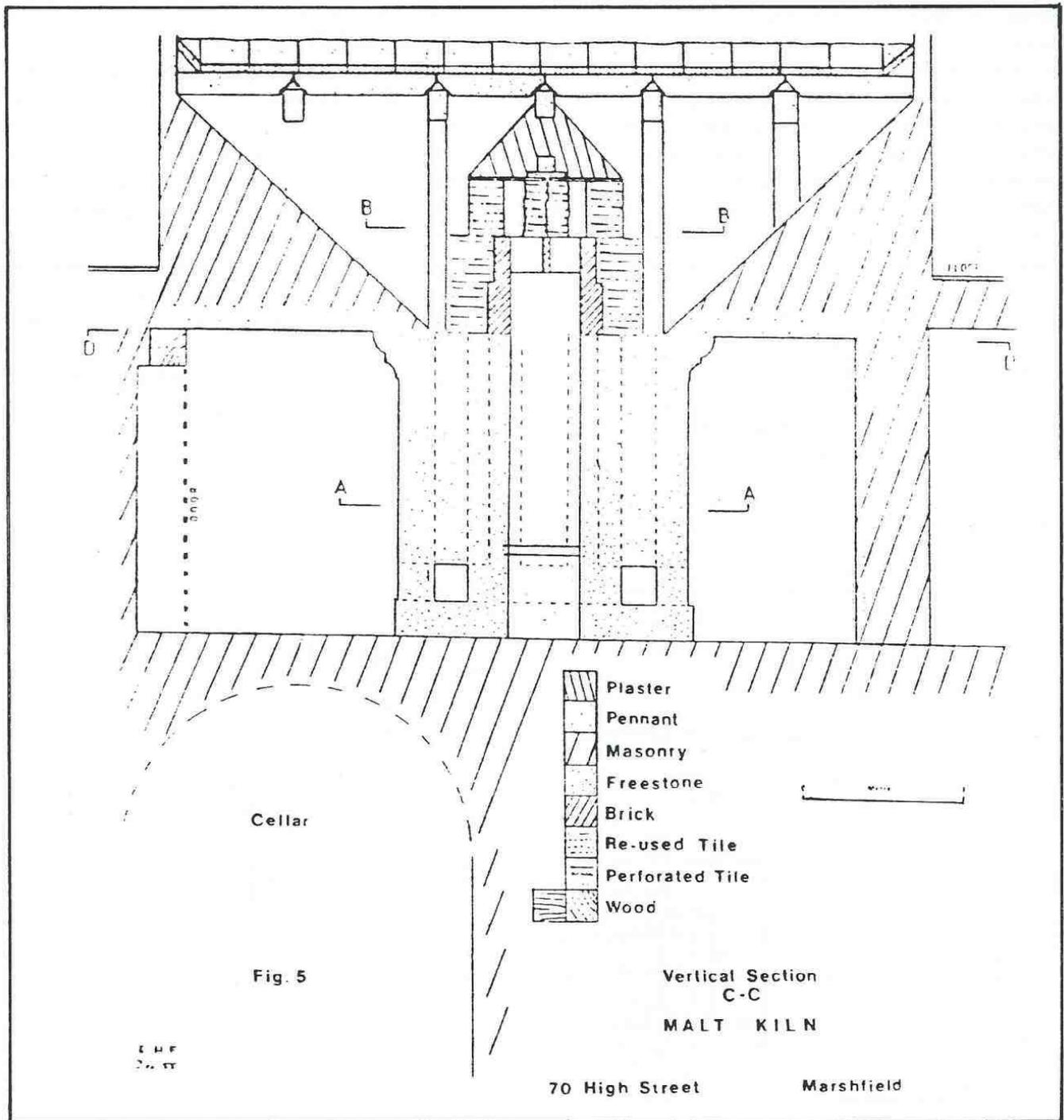
above. The beams are all of stone, except three wooden beams to the front, and span the gaps to the walls on three sides and to a pillar on the fourth. There is also a section of cornice on the front of the pillar. (The stonework on the kiln at No. 78 High Street is less elegant below the arches and the pattern of the air flues is different).

The level immediately above the ground floor ceiling at No. 70 is occupied by a hopper shaped structure containing a void in shape like an inverted truncated pyramid, six feet square (1.8m x 1.8m) at the bottom and increasing to approximately thirteen feet by fifteen feet (3.9m x 4.5m) at drying floor level. The sides of this structure appear to be constructed of

solid masonry, a considerable load for the beams below to support. Above the drying floor low walls of 4 inch thick freestone extend upwards on three sides topped by lath and plaster walls. The outside wall of the main building forms the fourth side. At a height of six to eight feet (1.8/2.4m) are the remains of a lath and plaster pyramid sloping toward the centre where traces remain of where the vent was inserted into the apex of the roof. (fig 5)

The drying floor tiles are 12 inches square (0.3m x 0.3m) with small perforations in the top to allow the hot air to penetrate without the grain falling through. Some have 105 larger holes in the underside, each with 6 smaller holes through the top: others with 116 larger





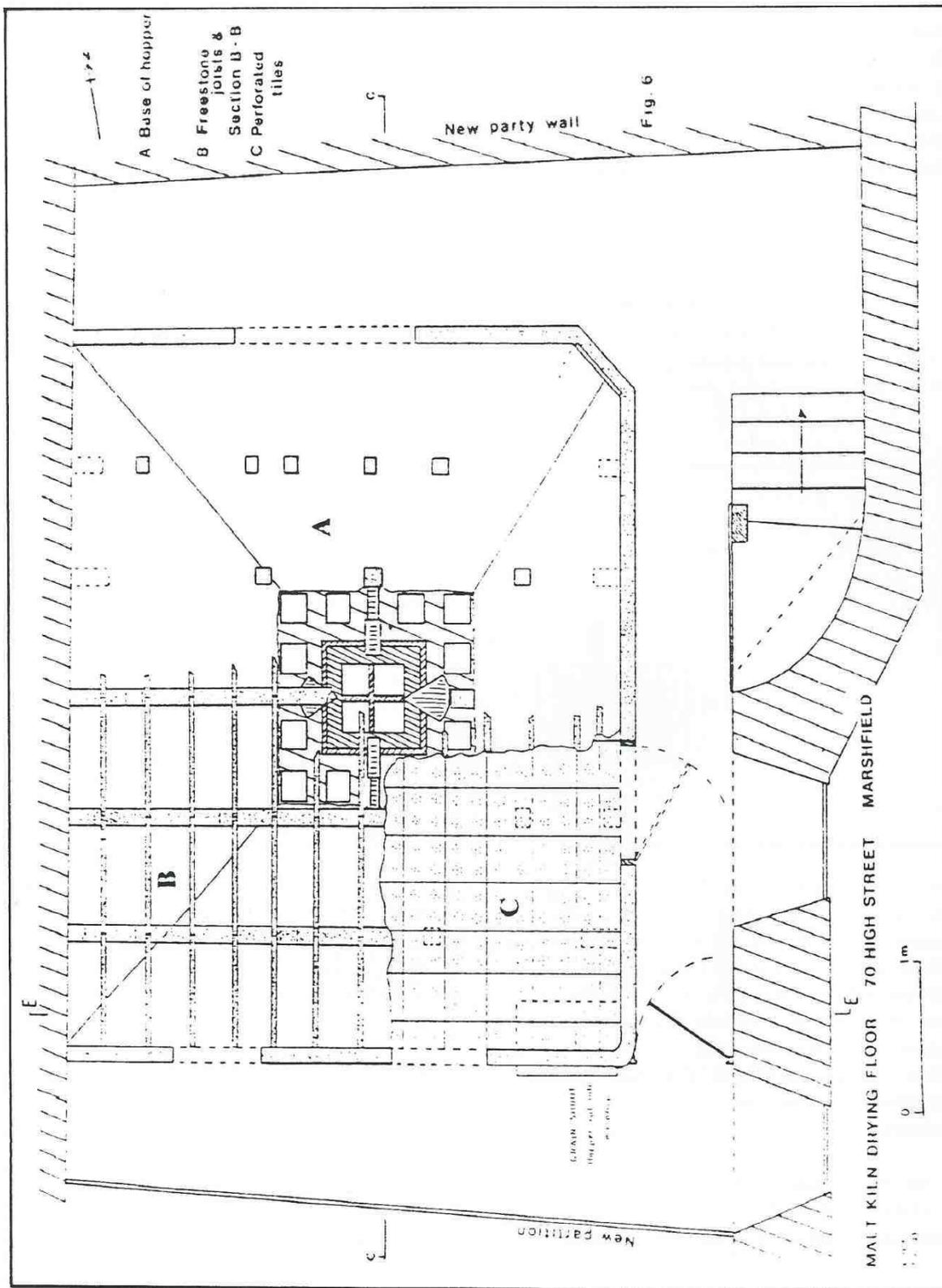
holes in the underside and 5 smaller holes each to the upper surface. There are also a few later replacement tiles. The tiles laid at an angle along each side are quite different, the holes on the underside are at an angle to encourage air flow and there is only one central hole above each. These are thought to be somewhat older, perhaps late 18th century whereas the multihole tiles may date from the early 19th century.

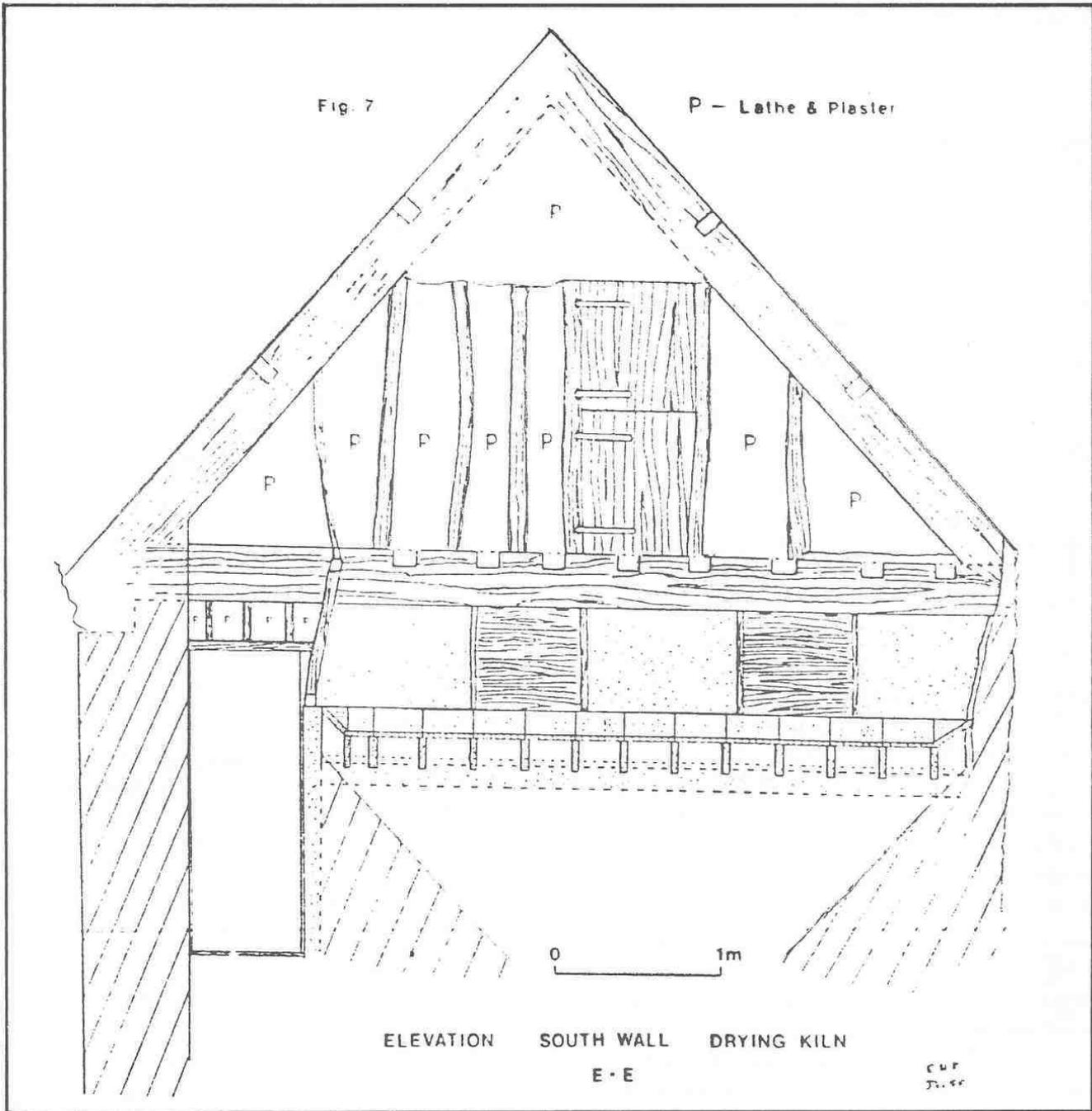
The floor tiles are supported on freestone 'joists' of about 7½ x 2½ inches (200mm x 63mm) section and set at 12 inch centres. These in

turn are supported on freestone 'principal joists' of about 5 X 6 inches (127mm x 152mm) section and supported on an irregular pattern of stone pillars. All horizontal surfaces are covered with a triangular section of plaster to avoid accumulation of debris. The air flues from the furnace open into the base of the hopper like structure, and the central fire flue is extended upwards in brick for about two feet (0.6m). In the centre is a cross made of four old perforated tiles - probably 8 inches square (203mm x 203mm) and thinner than the present larger floor tiles. Above this are four pillars, two triangular built of old tiles and two of

brick, to support a disperser plate 3 feet 2 inches square (0.96m x 0.96m) made of two slabs of iron. The joint was sealed with four tiles about 9½ inches square (240mm X 240mm) covered with a freestone bar 4 inches square (102mm X 102mm) in section. All is surmounted by a pyramid of plaster extending up the sides of the 'principal joists' overhead.(fig 5)

The three internal walls round the drying floor all have doorways or hatches, as also does the wall across the angle near the stairs. Many of the doors and frames are now missing so that the details are uncertain. It is probable that the grain was shovelled into the kiln through the large opening on the north side, as the working floors were beyond the new party wall. It is





likely that the kiln was emptied through the hatches on the opposite side where there would have been storage areas beyond the new partition in part of the present house. Finally the malt would have been shovelled into a hopper at the end of the kiln to be bagged where the grain shoot ends in the recess below. This recess was originally provided with a door.

The low wall in the north east corner of the ground floor could have formed one side of a steeping tank; a second similar wall existed beyond the new party wall.

The present owner of the kiln is keen for it to be repaired and be preserved but is unable to fund the work himself, and would be interested to hear of any source of possible grants.

This survey was carried out under the auspices of the Avon Industrial Building Trust with the assistance of Arthur Gunn whose co-operation is gratefully acknowledged.

References

- 1 Marshfield: An Archaeological Survey of o Southern Cotswold Parish, V Russett, Avon County Council, no date.
2. Calendar of Patent Rolls 14 November 1458.