

THE MALTHOUSE, SEYMOUR HOUSE HOTEL, CHIPPING CAMPDEN, GLOUCESTERSHIRE

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Introduction

This report is the result of a watching brief on work carried out during the conversion and restoration of the Malthouse which in the 1990s formed part of the Seymour House Hotel. The restoration work was carried out between 1997 and 1998. Some of this report was originally produced for the exhibition to celebrate the completion of the restoration work and the opening of the Malthouse at that date as a function room and conference centre.

The Malthouse first came to my attention in 1990. Then, it was in a very poor state of repair and it was used for miscellaneous storage (Figs. 1 and 2). Despite this the majority of its original internal features still survived: the steeping cistern, part of the couch frame, the hoist for moving the growing barley from the bottom growing floor to the top growing floor, and most importantly the kiln furnace and perforated tile drying floor on its stone supports. There were



Fig. 1. The malthouse before work began, from the south east

three floors, although the top one was almost completely in the roof and was effectively a loft floor (Figs. 3 and 4). Externally, the typical regularly spaced windows survived. Also, there were three vents in the roof to provide ventilation to the top floor. At that time some measurements and photographs were taken.

Then in 1991 - 1992 Kirsty Rodwell was commissioned to produce an archaeological report for Michael Reardon & Associates. This report included a written description of the building and plans of the three floors, interior and exterior elevations, and detailed drawings of the kiln.

In 1995 a scheme was put forward for the conversion of the Malthouse into a conference room. Most of the important features were to be retained, although sometimes slightly modified. There was one major alteration, the lowering of the middle floor to provide adequate head room on the top floor. Part of the condition of the work was that an archaeological watching brief be undertaken. A preliminary visit was made to the site in July 1995 to ascertain the condition of the most important features in the malthouse, and to consider what was to be retained and repaired and how certain parts were to be protected during renovation.

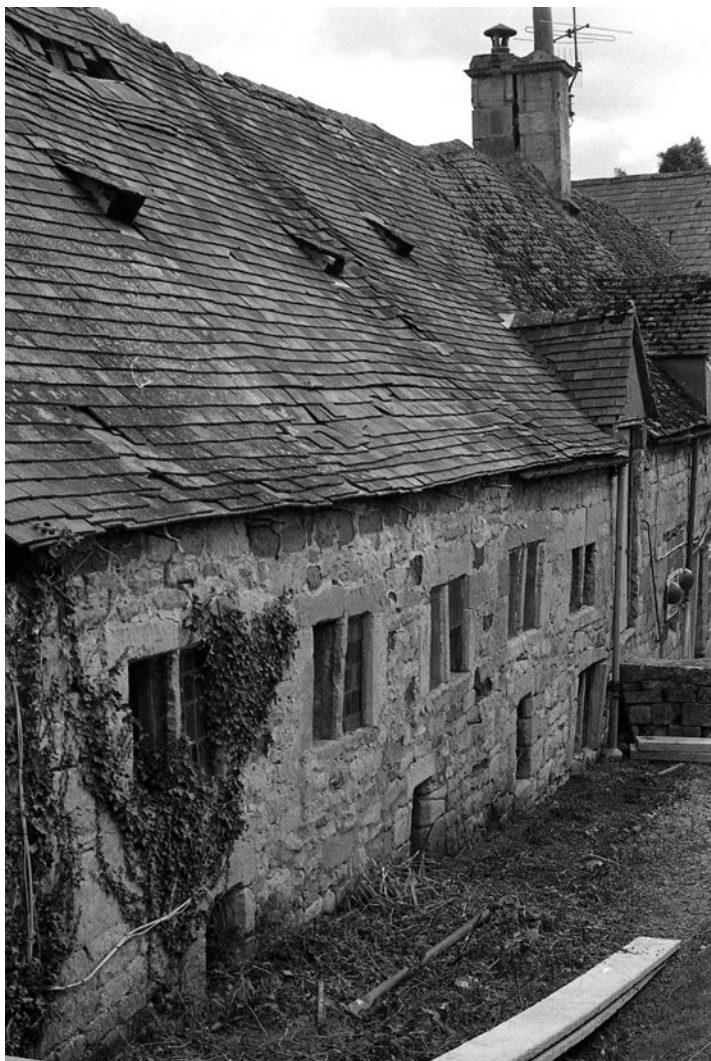


Fig. 2. The malthouse during work - note the vents in the roof

As a result of the July site visit a specification was drawn up which included the removal of loose perforated kiln tiles and their stone supports from the kiln floor area. The kiln was then to be covered with a plywood floor to enable the contractors to work securely on the rest of the building. The steeping cistern was also to be protected by similar means. The hoist was to be removed during renovation and then put back on completion. Likewise the external vents were to be replaced when the roof was finished. Loose items were to be recorded, and retained if appropriate. Regular visits were to be made during conversion.

Work started at the end of August 1997 and was completed in September 1998. The building contractors were Mustoe & Sons of Northleach.

The Site and its History

The malthouse, (Grid Reference SP 153394) was then part of the Seymour House Hotel, on its northern side, and at the northern end of Chipping Campden's High Street. It is now part of the property called "The Malthouse". It is a burgage

plot malting and is behind the house which fronts onto the High Street. This building and the Seymour House Hotel are according to Pevsner of an early 18th century date.

The building may be early 18th century or even late 17th century, but it is not until a century later that any records on it survive. In 1823 Seymour House was occupied by Mr James Turney and he remained there until 1855. He was also a Church Warden. Pigots Directory of 1830 records him as a maltster and as the occupier of a posting house, the Noel Arms. This was not the Seymour House Hotel. On James' death in 1855, the Malthouse passed to his widow and in the following year, 1856, she left it to her nephew, Samuel Dunn. It remained in his family until 1939. Samuel Dunn appears as a maltster in Chipping Campden in Kelly's 1870 Trades Directory. In the 1885, 1894 and 1895 Kelly's Directories it is Richard Dunn, presumably Samuel's son who is listed as the maltster. Entries ceased in the 20th century directories.

The Building

The malthouse runs east to west. It is a single gabled building. It has three storeys although only two are visible as the third one is a loft storey and almost completely within the roof. The roof is now a plain tile one.

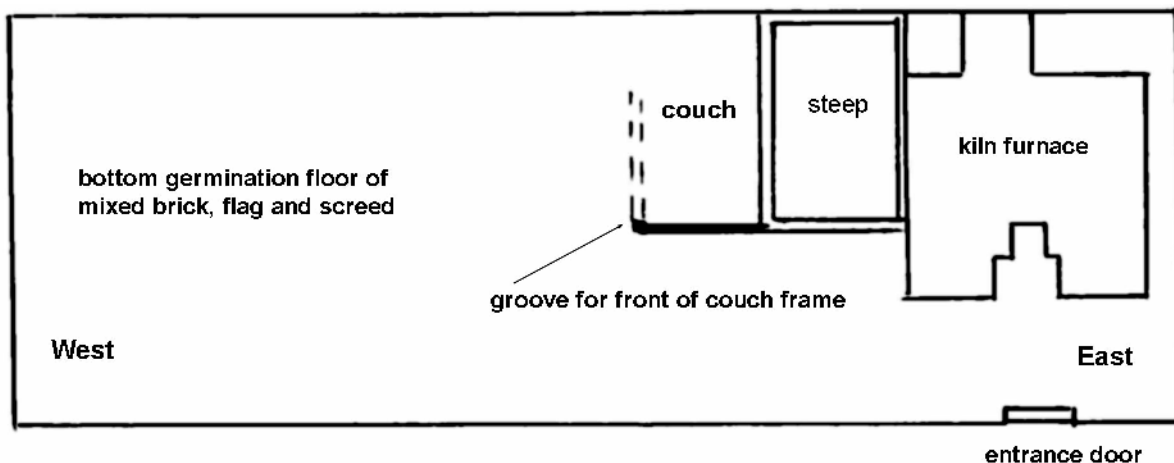


Fig. 3. Diagrammatic ground floor plan of Chipping Campden Malthouse

Exterior

The original roof on the northern side had long since gone and had been replaced by a corrugated iron one which by the start of the work was no longer serviceable. There are no windows in the north elevation. Externally the wall is vertical but internally it appears to have moved inwards.

The windows in the south elevation are regularly spaced. Externally this elevation appears vertical, unlike the interior where there appears to be a substantial outwards slope. There were five steps up to the middle floor. Under them was a cobbled area. This may indicate that the stone steps were perhaps a replacement for an earlier wooden set.

The walls were wide and rubble filled. The south wall was particularly wide at the windows. They had interior wooden cills, and timber lintels over windows.

The west elevation has no significant features in it and the eastern end of the malthouse is attached to the building fronting onto the High Street.

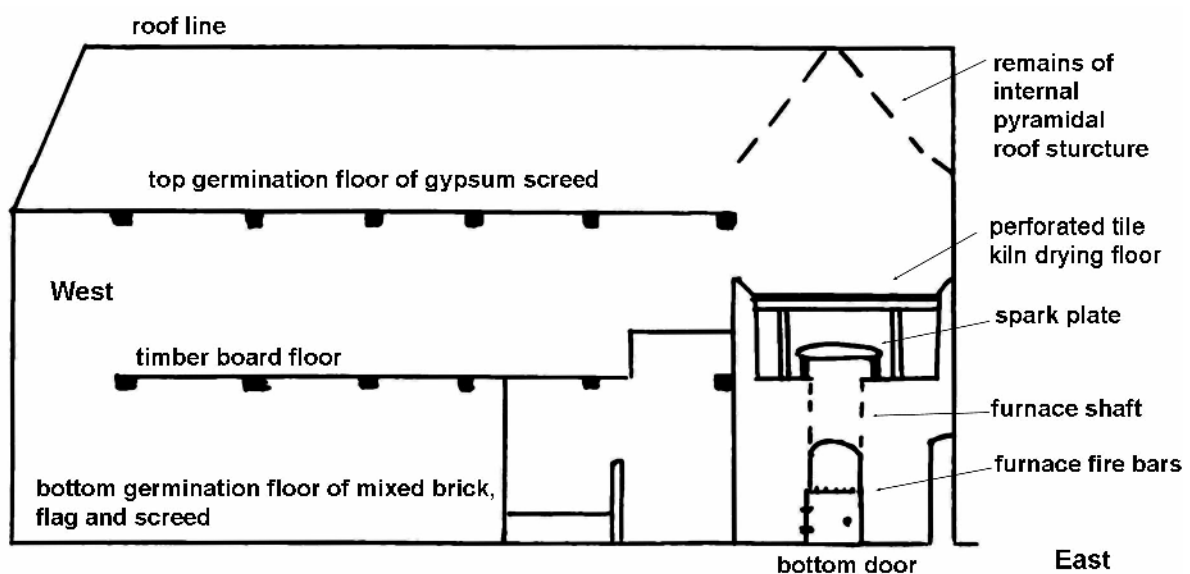


Fig. 4. Diagrammatic cross section of Chipping Campden Malthouse



Fig. 5. The steep and the surviving part of the couch frame

north wall of the malthouse. It is constructed of stone blocks, generally large ones, but also with some smaller ones. The inside of the steep had a plaster lining which was surprisingly thick at $\frac{3}{4}$ inch (2 cm). The drainage hole is in the centre of the bottom of the south wall. It is 6 inches (15 cm) across and $5\frac{1}{2}$ inches (14 cm) in height and $24\frac{1}{2}$ inches (61 cm) from the western end and 15 inches (38 cm) from the eastern, or kiln, end of the steep base. The drain hole simply drained into a soakaway in the floor. The steep is $32\frac{1}{2}$ inches (81 cm) in height and 46 inches (117 cm) in width and 83 inches (211 cm) in length with the wooden lip being 3 inches (8 cm) in depth. The width of this wooden lip was $8\frac{1}{4}$ inches (21 cm). Since the only means of emptying the wetted grain was by a man shovelling it out, it was hard work. The drain was only for draining off the water.

- The Couch Frame (on the bottom floor)

The couch frame was located on the west side of the steep and between it and the bottom growing floor. The removal of surface debris revealed the groove in which the western board

Interior

- The Bottom Floor

The bottom floor of the malthouse is semi-basement and is a westwards continuation of the room in which the kiln is located. It was a germination floor with the steep and couch located at its eastern end. There were no central supports under the main beams, although there was some relatively recent propping. The floor, when cleared of its debris, showed that it was floored with good quality large stone flags around the kiln and steep, then beyond them what was probably a relatively modern floor covering of cement screed, and finally, at the western end, bricks very well set to provide a good even surface. The whole area of this germination floor was surprisingly smooth.

The eastern most half sized window which is in front of the kiln has a small shelf under it. That the shutters did not adequately fit the windows is indicated by wear against the stone of the wall, however this may be due to a shift within the building or lack of adequate maintenance.

-The Steeping Cistern (on the bottom floor)

The steeping cistern abuts the western wall of the kiln furnace, and the

was positioned. The surviving south board was 18 inches (46 cm) in height and 64 inches (162.5 cm) in length, and the post was 4³/₄ inches (12 cm) by 5¹/₄ inches (13.5 cm) and 64 inches (162.5 cm) in height. Later removal of the existing board revealed that it too had been seated in a groove. The measurements of the groove were 2 inches (5 cm) in width, and the length of the inside southern edge was 62 inches (157.5 cm) and the outside edge was 63 inches (160 cm). The western groove was 36 inches (91.5 cm) long on its outside edge and 34 inches (86 cm) on its inside edge. As is obvious this was not the full length of the steep. It is truncated by a stone flag. Whether this was a later replacement or because it was never the intention to have that part of the couch board in a groove it is not possible to determine.

- The Middle Floor

This floor was essentially of wooden boards. The area over the steep was raised or stepped up. The windows on this floor had wooden shutters with leather hinges at the top and were held open by small wooden clips. At the western end the floor was no longer extant. Whether a whole floor had existed at this end is not known. There would have been a hatch in it to enable the part germinated grain to be hoisted to the top floor.

- The Top Floor

The top floor was the upper germination floor. The floor was constructed of wooden boards, some surprisingly broad, and some barrel staves, both of which had holes in them, possibly for keying in the screed surface. Other parts of the floor were of laths. This floor appeared to be of cement screed, however analysis of a sample of the screed, arranged by English Heritage, showed that the composition was, somewhat surprising, gypsum (55.2%) with aggregate of coal residue and brick dust (44.8%). There were two layers of screed on the floor perhaps indicating that the floor had been resurfaced at some stage. The walls of this top floor were carefully plastered to ensure as little loss of grain as possible. At the western end was the hatch, under the hoist. The hatch originally had a cover which was hinged with two hinges at its western side.



Fig. 6. The kiln furnace after cleaning

- Roof

The roof structure was a simple pegged A frame with each frame numbered. There was no ridge pole; each member was mortised only. The bases of the A frame rested on small and by then rather crumbly wooden wall plates and on the inner half of the wall only. The walls run up under the roof.

To the west of the kiln roof, the first A frame truss had partly collapsed pulling the kiln to the west. Below the tie beam there was a hatch, from the kiln to the drying

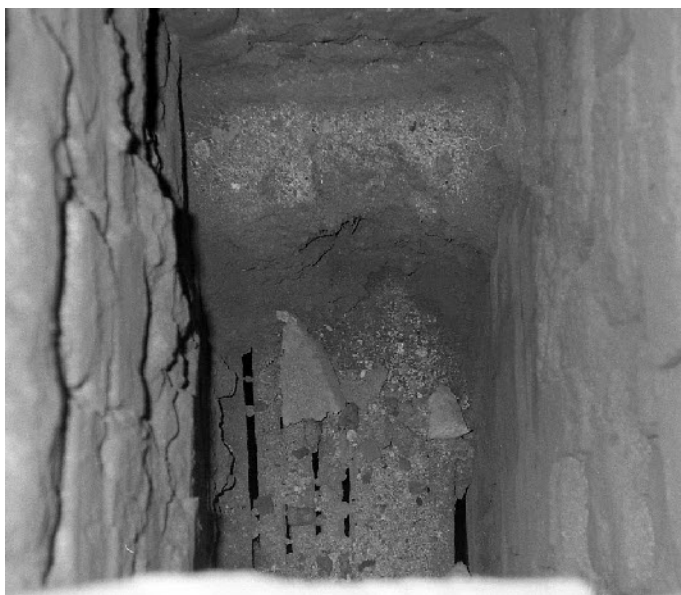


Fig. 7. The furnace shaft with a little coke still on the fire bars

floor, the hatch shutter was held up by a simple wooden clip.

The original tiles were mainly unstamped except for two. One was marked Coalport, Broseley and the other what appeared to be “Rosemary”!

- The Kiln

The kiln, its furnace and the drying floor are located at the eastern end of the malthouse building and therefore adjacent to the main part of the dwelling. Abutting to the western face of the kiln furnace is the steeping cistern (described above). The upper western elevation of the kiln is surprisingly stark. The area at ground floor level around the shaft on the north and east sides had a thick layer of ash from the kiln furnace.

- The Furnace

The kiln furnace is a robust structure of stone with some brick. The furnace aperture faces south. The fire bars of which there are seven survive as does the iron door to the lower opening from which the ash was removed. As the furnace structure is of stone it does not form the more usual barrel vault arches to the outside walls. Instead the massive stones of which it is constructed are cantilevered out so that the upper part of the structure forms a square of approximately 12 foot (3.7 m). The large stones at the back have an overlap of about two inches (5 cm).

- The Super Structure and Kiln Drying Floor

The drying floor which is of perforated tiles is square with the inner sides sloping. The tiles which are twelve inches (30 cm) square rest on stone bearers, the dimensions of which are a 2 inch (5 cm) surface (on which the tiles rested, giving an inch (2.5 cm) overlap to each tile) and a depth of 6 inches (15 cm) and a base width of 2½ to 3 inches (6 to 8 cm). These bearers fit onto another grid of horizontal bearers which have a top width of ¾ inch (2 cm), a depth of 9 inches (23 cm) and a base width of 6 to 7 inches (15 to 18 cm). These bearers are thus wedge shaped. They in turn rest on squared stone columns, although some additional brick piers have been



Fig. 8. The spark plate and the stone grid above it on which the perforated kiln tiles rested



Fig. 9. Underside of stone grid showing underside of kiln tiles and some of the grid support pillars

inserted. Many of the stones in the kiln were hand dressed. Some of the stone piers and joists are quite blackened. The piers rest on a brick 'bed' which is 3 inches (8 cm) deep. The bricks rest on a bed of lime dust which is also 3 inches (8 cm) deep and in turn this 'rests' on the stone structure. The brick shaft of the furnaces rise up into the brick bed and above it is a spark stone or baffle plate of stones rather like roofing tiles. The spark plate was supported on brick piers and on top of it were short brick piers to support the stonework matrix. The depth of the furnace shaft is 40½ inches (102 cm) and it measures 50 inches (124 cm) (east to west) and 53 inches (134 cm) north to south. There is a slight slope of the floor to the shaft. The spark plate is 49 inches (124 cm) east to west and 54 inches (137 cm) north to south.

Many of the original tiles in the furnace were tiles of four holes to a square underside. However there was at least one with 765 holes and was almost certainly a Bridgwater made tile. In the furnace shaft but not in position were a number of single hole tiles. None of the tiles seen had a maker's name on them. The presence of single hole tiles indicates the use of a horsehair cloth on which the malt would have been kilned. At some time these were replaced by multi hole tiles.

Replacement tiles came from Mustoe's yard in Northleach and probably from the malthouse on the right hand side of the Oxford Road. These tiles are five holers.

- Kiln roof structure

The kiln roof unlike the roof of the rest of the malthouse does have a timber ridge pole with dowel holes and one larger hole. It is possible the original roof timbers are in place as the lath and plaster pyramid goes up to the ridge pole and the centre hole may have been for the base of a swivel cowl. This internal pyramid may have been the second phase, as the wall behind to the house and therefore the eastern gable end was more blackened than the plaster of the pyramid. This indicates that the hood was a later structure. Likewise the timber wall plates had suffered very much from damp and heat.

- Other features

Immediately to the east of the kiln furnace was another room which was a well-built room of stone blocks. It had a window in the north elevation and a door in the south elevation and access to the hotel. The floor was of flag on the eastern half and there was a chimney in the south east corner. It may have been the brew house or possibly originally another kiln.

The process within the Building

The barley needed for immediate use was stored on the middle floor and then dropped into the steep. After steeping the wetted barley was moved to the adjacent couch frame to the west of the steep and from there it was moved as germination proceeded along the bottom germination floor. Part way through it was moved via the hoist to the top germination floor and finally down onto the kiln drying floor. After kilning the malt was moved onto the middle boarded storage floor for cleaning and storing prior to use for brewing. This type of malting where the steep is next to the kiln and its furnace is referred to as the Newark pattern of malting.

Conclusion

There is no doubt that this malthouse with its probable date of the early 18th century or possibly late 17th century was a very complete surviving example with its stone steep, remains of the timber couch frame and the germination floors and stone kiln structure and perforated tiles. It is also clear that it was worked on the Newark pattern.

As indicated above there were at least two phases to the malthouse. Regrettably nothing is known of its history. Even though some features were lost in the restoration the building was fully recorded both before and during the alterations.

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Appendix: The Malting Process

Malt is artificially germinated grain. Malting was and to some extent still is a seasonal process and historically took place between the months of October and May. Barley is usually the raw ingredient for making malt. It has to be stored and often dried prior to use to ensure dormancy is broken. Barley also has to be cleaned of dust, small stones and loose husks.

The first stage in the malting process after any drying and the necessary cleaning was and is the steeping of the barley in the cistern to begin germination. The water in the cistern was ideally about 54 °F (12.5 °C). Lower than this and growth would be retarded and higher more water would be taken up. The steeping period lasted between 60 and 72 hours.

During this time the water was changed several times and the barley was rested for periods varying between eight and twelve hours. The aim of steeping was to give the barley sufficient moisture to ensure perfect and regular germination. The moisture content of the barley after steeping should be 40 to 45 per cent.

The next stage prior to the repeal of the Malt Tax in 1880 was couching. The couch was a rectangular frame in which the soaked barley was put in order that the excise men could measure its volume. The barley stayed in the couch for twenty four hours. Couching was still practised after the repeal of the Malt Tax but it did not have to be undertaken in a frame, nor did it have to be for a set number of hours.

From the couch or the steep the soaked barley was spread out onto the floor to grow. In the later nineteenth century the germination of the barley to the point where it was ready to be kilned might take as long as fourteen days. The depth of the grain on the floor would vary from four to eight inches depending upon the weather conditions. The temperature on the floor ranged from 56 F (13 C) to 65 F (15 C) or even 70 F (22 C) with the higher temperature being reached at the end of germination. As germination progressed the rootlets began to grow and it was necessary to turn the germinating grain to prevent it from matting together and to ensure the growth was/is even. Originally this was done by hand using a broad flat bladed shovel. Later ploughs, which were a three pronged, flat bladed 'forks' were used and more recently, in the twentieth century mechanical shovels were introduced.

When the green malt, as partially germinated barley is called had reached the required extent of growth, it was ready to go to the kiln. In the kiln the green malt was laid on the floor which was often of perforated ceramic tiles, a foot square. By the end of the nineteenth century the drying floor was often of wedge wire, although an earlier drying floors of woven wire were used. The depth of the green malt on the kiln floor was usually about eight to twelve inches (20 to 30 cm). It was turned during kilning, by hand in the early days, or later on by mechanical turners. The malt was on the kiln for three or four days. The temperature varied according to how well the kiln was constructed and the type of malt being made, but could be as high as 220 F (105 C). The fuel used in malt kilns by the nineteenth century was mainly anthracite or coke and as the combustion products usually passed directly through the malt a fuel of low arsenic content was essential. The kilning of the malt arrested germination and therefore halted the breakdown of the starch molecules. It also reduced the moisture content, to about three per cent which was necessary for safe storage and produced an ideal grain for grinding to grist in the brewing process. Kilning also gave colour and flavour to the malt.

Finally, the kilned malt was dressed (the rootlets removed and the grain cleaned) and then stored until it was required for brewing. It was usual to store the malt for at least a month before it was used.