

CLOTH, PINS AND LEATHER - AN EXAMINATION OF FROGMARSH MILL, WOODCHESTER

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Introduction

During the latter part of 1997, an opportunity arose to examine the buildings that comprise this mill site at Woodchester, near Stroud. The main buildings, some of which have been unused for a number of years, are currently being redeveloped with a view to new uses being found for them. These comprise a combination of industrial structures of different dates but also an early clothier's house, associated with the site's former use as a woollen cloth mill. Over the years, the house has been partially incorporated into the industrial buildings as the site developed and expanded and is now only partially visible from the outside world. Examination revealed a number of interesting features surviving. Below, the history of the site is examined briefly and suggestions made for the sequence of development of the main buildings.

Background

Woodchester was once an important clothing area and was famous for the manufacture of fine woollen broadcloth. In the immediate area, manufacture was carried on by several major clothiers as well as a series of smaller ones. Frogmarsh Mill was but one of the cloth mills strung out along the Nailsworth Stream, those immediately above including Merretts, Dyehouse, Inchbrook and Dunkirk Mills. As with most Stroud valley mills, the precise date of the first mill to occupy the site is not known. However, there was certainly a mill in this location from at least the mid 17th century as in 1658, it was recorded as being owned and operated by Clutterbuck Dean, a clothier of Minchinhampton. At the time of Dean's occupation, Frogmarsh Mill was much smaller than the present complex of buildings and housed two fulling stocks, a gig mill and a dye house. This combination was not uncommon in Gloucestershire woollen mills at the time. (Figure 1 and 2)

In 1668, the mill formed part of the marriage settlement of Richard Deane (sic) and Mary Wilkinson, the widow of Clutterbuck's son, Richard, and she was still the owner in 1696. Either before or on her death, the mill was bought by Thomas Shurmur who may have leased it to Edward Yeate, a clothier of Malmesbury. In 1702, Mary, his widow, sold the mill to another Thomas Shurmur, and several generations of the family subsequently owned and worked the mill. Reputedly, at some point, Thomas Playne of the notable local clothier family, bought Frogmarsh Mill and lived nearby in the house known as Sommerwells; the latter was later incorporated into Woodchester convent. On purchasing Longfords Mill near Avening, Playne apparently sold his properties in Woodchester and concentrated his efforts at his new mill. The cloth-making business of the Playnes was said to have been "carried on for many generations at Frogmarsh".

The closing decade of the 18th century and the first two of the 19th saw significant changes in how the local cloth industry was developed and organised, with manufacturers gathering cottage-based workers at the mills and adopting increasing amounts of machinery powered by



Figure 1 Frogmarsh Mill site, c.1900. The wool stove is on the left and the engine house on the right.

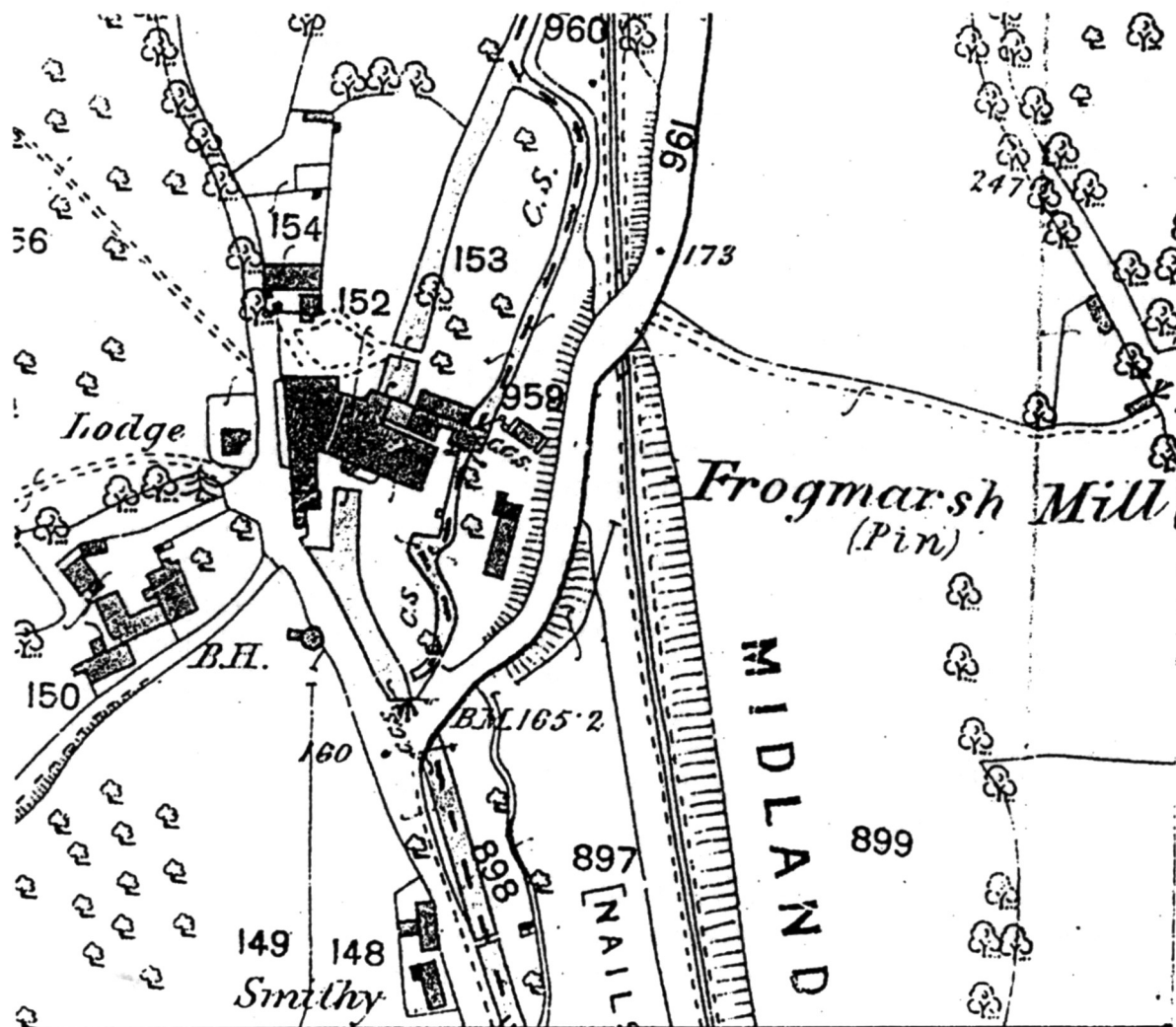


Figure 2 Frogmarsh Mill (OS Map 1885, Sheet XLIX.I)

combinations of water and steam. This shift imposed new requirements on mill buildings and during this period, most were rebuilt and enlarged. It is likely that the main stone-built 3-storey block of Frogmarsh dates at least in part from this period of change in the local woollen industry.

By the beginning of the 19th century, Thomas Cooper was manufacturing cloth at Frogmarsh although by c 1806, the mill was apparently being worked by John Knowles. By 1818, John Chalk ("woollen manufacturer") owned and operated the mill which remained in his family for several generations. By 1838, his son, John Knowles Chalk, owned the mill although he was leasing it to the cloth-making partnership of Samuel Francis and A M Flint. Interestingly, at the time of a survey carried out in 1839, no looms were noted at the mill which may indicate that the company was still reliant solely on cottage-based weavers; by this time, many other local mills had gathered hand-loom weavers together in weaving shops at the mill sites - it appears that Francis & Flint had not yet done so.

Flint did not restrict his commercial activities to Frogmarsh Mill for in 1845 he bought Nailsworth Mill and worked it in partnership with Enoch Francis, doubtless a relation of Samuel, his associate at Frogmarsh. As with a number of other local industrialists, the pair had strong links with the nonconformist church in the shape of Shortwood Baptist Chapel; both partners were in fact sons of former ministers of Shortwood. The partnership continued to make cloth at Frogmarsh until 1853; however, this was to see the end of the era with a change of use for the mill buildings.

In 1824, Lemuel Wright had patented a machine for making solid-headed pins; this was subsequently taken up by Daniel Foot Taylor and installed in part of Lightpill Mill near Stroud where he attempted to produce such pins on a commercial basis. Taylor was later declared bankrupt, his machines being taken over by a Birmingham manufacturer who eventually managed to achieve the elusive goal of fully automated production. On subsequently deciding to remove his business back to Birmingham, three of the manufacturer's apprentices decided to set up their own business and the noted local pin-making firm comprising Albert Perkins, Henry Critchley and Joseph Marmont came into being, their initial base of operations being a shed at the back of the Ten Bells Inn (itself, formerly a small cloth mill) at Frogmarsh, with power being supplied by a water wheel driven by Atcombe Pond. Later, as business improved, they moved to a mill immediately below Woodchester Lakes (either Pitts or Freames), which supplied the necessary water power.

In 1851, the partnership moved to Frogmarsh Mills which they purchased from the Executors of John Chalk. Responsibilities were split such that Henry Critchley took care of finance, commercial and office matters, plus foreign travel and sales; Albert Perkins was responsible for the actual pin manufacturing processes, and Joseph Marmont concentrated on sales and travel within Great Britain.

Between 1851 and c 1874, the business grew steadily with various additions being made to the old cloth mill buildings. However, extra impetus was given by the Franco-Prussian War, during which a number of important competitor's pin factories were destroyed. Critchley then travelled abroad to Paris and other parts of Europe and consequently, the business flourished; profits throughout the 1870s were apparently considerable. However, despite this, all was not

plain sailing as disagreements between the partners grew - usually "Perkins and Critchley sided against Marmont". The latter wanted to bring his eldest son into the business but the others objected until their sons were also old enough. The result was that the partnership broke up and Marmont left for London where he then worked as an accountant. Eventually, four sons came into the business, namely James and Ted Perkins, Arthur Marmont and Uriah Critchley, manufacturing operations remaining at Frogmarsh Mill throughout this period.

Even now, disagreements between the partners continued and after Henry Critchley's death in May 1881, arguments over the terms of the partnership agreement saw unwillingness to accept Uriah Critchley as a full partner. The case eventually went to arbitration, Mr S S Marling being called in to arbitrate. Following his judgement, the partnership was dissolved and the Critchley component set up a rival pin-making business at Wimberley Mills.

Pin-making was also taken up by a number of firms in and around Painswick and other parts of Stroud, most like Frogmarsh, being based in redundant cloth mills. Perkins & Marmont continued to manufacture a variety of pins at Frogmarsh until the business finally closed on 4th May 1934. By 1939 the mill was home to the Carr Tanning Company, who came to specialise in sheepskin leathers for the shoe and slipper trade. At one time, the company employed over 100 local workers. It now houses the Bottle Green Company and a number of smaller concerns.

The Buildings:

Examination of the former Clothier's House (Figures 3 to 7)

The buildings forming the present complex span at least three centuries in date. The oldest surviving part comprises the gabled 17th century clothier's house (possibly with even earlier origins) that presumably stood close to the original fulling mill and which over the centuries, was subsumed into and surrounded by industrial buildings. This building has received many interior modifications associated with the changing industrial needs of the site. Many different entrances have been made in the ground floor walls and a lift shaft has been installed through the main part of the house. It is almost certainly a clothiers house from the 17th century, with possible earlier origins. It has developed in several phases and from the limited inspection carried out, it is not possible to draw firm conclusions on its overall development. However, it is clear that it retains many of its early features and these are listed by floor. To ease the description, the building has been divided into three blocks:

- Block A comprises the front range, parallel to and fronting onto the lane at the rear of the site. It presents two typical Cotswold gabled dormers facing the lane side of the building; the current building extends further along the lane. No building line was seen between the former domestic and industrial parts of the laneside elevation. However, the limit of the house is evident within the former fitters workshop, where there is the external chimney breast of the gabled end wall of the house.
- Block B, the left hand rear part (as viewed from the lane). This has a large projecting stone chimney stack to its side wall.

- Block C, the right hand rear part (as viewed from the lane). This has a large external stone chimney stack projecting from its gable end wall; this wing is encased within the 19th century mill building.

The building has good quality quoin stones, although the other stone is of a very rubbly nature. There are remains of roughcast in many areas and this is probably of an early date.

Ground Floor:

On the ground floor are two large open hearths (both now blocked) of different styles. One has a good quality plain chamfered surround with a cambered lintel which has been made in two parts with a central vertical joint; there is a timber lintel above to spread the load of the upper wall. This falls within Block B and has a large projecting external chimney stack. The other is very wide, with a rougher straight stone lintel, the jambs not being exposed. This survives in Block C and also has a large projecting stone stack in the gable end of this block. Another hearth with an added bread oven, seen in an adjacent warehouse section of the mill, was part of a separate building. Other features of note include:

- A blocked window in the gable end of block B. It was probably a 3 or 4 light window, similar to that present in the room above.
- A ground floor ceiling beam in block C, with narrow chamfers; this may remain from the domestic building phases.
- A doorway with a chamfered stone surround in the rear of Block A. This is a former entrance door. It stands outside the line of the side wall of Block C.
- A stone wall separating the front of the building (Block A) from the two rear parts (Block B and C). Part of this was the external rear wall of that end of Block A, before Block C was added.
- The ground floor of Block A is currently one large work space. The ceiling structure shows it has been formerly sub-divided. The ceiling towards the southern end has a fine set of heavily moulded beams (of oak), albeit somewhat hacked about. The first beam is only moulded on one side indicating the former site of a room division. The middle beam was formerly moulded on both sides. A moulded trimmer is present in the gable end wall and this must also contain an early hearth. Side members replicate the moulding to give a panelled ceiling. There may have been a central axial beam, the evidence for this being a stub of beam remaining in the centre point of the first beam. The joists at this end of the room are large, but without chamfers or stops. The ceiling at the other end of the room shows no signs of moulded beams. The far end was therefore a room of higher status. ie. the best parlour. There are sash windows with shutters in the laneside elevation towards the southern end of the room. These are probably early 19th century and show that the building was domestic to at least this date.

First Floor:

On the first floor of Block A, there are original ceiling beams (tie beams of roof trusses) in situ; these are three in number and have narrow chamfers and run out stops. The first cross beam is jointed to an axial beam which runs to the north gable end wall. This is not chamfered where it joins the beam. But there are triangular stops and rough chamfers approximately 1 metre from the join with the cross beam; the chamfer then continues to the gable end where there is another stop directly at the wall junction.

From within the 19th century mill building, the rear of Blocks B and C are visible. Block C has a large projecting stack at its gable end. The side of this block has a 2-light stone mullion window with plain chamfers and a drip mould that terminates on the rear side of the window. However, on the other side, this continues towards the rear of Block A although it has been interrupted by the insertion of the lift shaft and recently inserted brickwork. Within Block C at this level, the ceiling has been removed and the original roof truss has been revealed. This has lost its original tie beam. Block B can be entered from the first floor of Block C. It has a 3-light stone mullion window in its gable end and a single-light stone window frame to the right of the projecting stack in its side wall. Externally, the window frames in this wing are rebated and have hollow chamfers. The corner of this room has been partitioned off to accommodate the rise of an industrial ladder-type stair from the ground floor to the first floor of the front range of the building.

Attics:

There are several attic spaces that are accessed by a stair from the industrial part of the present building. The attic is L-shaped and covers areas over Blocks A and B. There is no access through to Block C, although there appeared to be a stone gabled dormer, possibly with a blocked window, separating the rear of Block A from Block C. A number of interesting points were noted during the inspection of the attic space. A consistent set of trusses run from Block B through to the front of the left hand gabled dormer of Block A (ie. they have been placed at right angles to the lane). This indicates that Block B and that end of Block A are likely to be of one build and possibly represent the first phase of the building. The roof structure here is of typical 17th century design and has morticed collars. The rear gable end (of Block B) has a 2-light stone mullioned window frame with plain chamfers which contrast with the hollow chamfers on the first floor room below. There is one straight windbrace in this part of the roof. The structure has been modified to allow clear passage through to the remaining attic over Block A. The modifications are probably 19th century and involved cutting away the base of a principal rafter and reseparate on a section of purlin bolted to the remaining structure.

The other trusses over Block A are parallel to the lane and superficially, appear similar in design to those over the other parts of the attic. ie. they are of 17th century origin. This part of the roof also has a gabled dormer facing the lane, but its window frame is of different proportions to that in the other gabled dormer. This suggests that the pair of dormers are of different phases; this is consistent with the changes in the roof structure. The limit of this part of the building can be seen just beyond the second gabled dormer, where the purlins terminate and the roof structure changes. The former stone gable end has been removed at this level.

Development

Overall, a complex picture of successive changes and development begins to emerge. The first phase of the building is thought to be the left hand end of Block A and Block B. This was at right angles to the lane and its gable end is represented by what is a gabled dormer in the laneside elevation of the present building. It had the projecting chimney breast on its rear elevation and therefore the fireplace surviving on the ground floor of this section of the building is also probably original. The original roof structure seems to be still in place. It has a series of stone mullion windows in its mill-side gable end wall.

During the next phase in its development, the building was extended parallel to the lane and this phase is represented by the remaining part of block A. The end of this part of the building can be viewed from the roof structure in the attic and by the external chimney breast in the ground floor fitters workshop. This would have generated an L shaped building. The wing thus created has fine moulded beams and must have been the best room. The heavy moulding must suggest an early 17th century or earlier date. An alternative explanation could be that the L shaped building is of one phase, but this does not seem consistent with the unequal size of the gabled dormers on the lane side. There are also other 17th century stone mullion windows, with plain chamfers, along the lane-side of the building. These contrast with the hollow moulded 3-light window on the first floor, at the rear of Block B, which suggests different building phases. It is likely that the stone wall that formed the rear of this second phase of the building was continued back to split the Phase 1 building into two halves (this is the axial wall that survives in the present building). In Phase 3, a wing (Block C) was built at right angles, behind the right hand end of Block A. It is thought that all phases are of 17th century or slightly earlier date.

The Industrial Buildings

The major industrial buildings of the site comprise essentially a 17th century two-storey stone-built wing (of 18-19 ft width) stretching out from the clothier's house and a later three-storey stone-built building formed from two distinct blocks, which forms the present "main" mill. The earlier wing shows a variety of features, such as drip mouldings and window openings that are of a type and scale associated with traditional domestic structures of the period. In part of the wall adjacent to the clothiers house is a single range of tall windows, clearly a crude later insertion, probably of early 19th century date. This period saw local clothiers adopting increasing amounts of powered cloth-making machinery and these windows may be associated with this phase of the industry's development. A large archway (now blocked) led from the lane into the mill yard; this was presumably the original main entrance to the mill.

The interior of both the early wing and the main mill are predominantly of timber. Although fire-proofing techniques, such as cast iron frames etc, were in use in some textile mills from the latter part of the 18th century, there was little uptake in Gloucestershire; Frogmarsh is but one of many local mills that relied on timber for much of its interior. Whereas the 17th century wing has stone mullioned windows, the 19th century block has cast iron windows of significantly larger area; good lighting was imperative for many stages of cloth-making. The end section of this wing appears to be older than the 'inner' section as it retains the remnants of several stone-mullioned windows. Presumably, at one time this section was a detached building. The newer part of the wing is lit by large iron-framed windows (5' wide by 6' 6"

deep) surmounted by relieving arches of blue engineering brick. This section of the block is roofed with stone tiles whereas the older part is roofed with slate; it seems likely that the latter has been re-roofed at some time.

In the basement of the main block are the blocked inlet and outlet arches for the two water wheels that were formerly situated there. Based on the dimensions of these, the wheels appear to have been of ~6 ft in width, and almost certainly breastshot. The inlet arches are of brick whereas the outlets are of stone with good quality key stones. Substantial pine beams (14" deep x 10" wide) support the first floor. In the 'inner' basement end wall survives a very large iron bearing housing (32" x 30") which appears to have once supported a substantial drive shaft, presumably taking power from the water wheels into the 17th century industrial wing. Various line shafting bearings also survive in this block.

In addition to the above, there are a number of single storey industrial buildings dating from the latter part of the 19th and 20th centuries. One comprises a somewhat altered brick-built engine/boiler house that at different times housed steam and diesel engines and latterly, a gas-fired boiler. Many of the spaces between this building and various others on the site were gradually roofed over to form additional working and storage space, some of which remain in use. A number of the more modern buildings, as well as parts of the older structures, are occupied by the Bottle Green Company, who manufacture a range of soft drinks and cordials. It was thanks to the generosity of the company that the present survey was possible.

One interesting structure that no longer survives at Frogmarsh is a classical garden house, built c 1720, probably during the Shurmur family's period of ownership. Sometimes referred to as the "Pin Mill", in 1938, this was bought by Lord Abercromby and rebuilt in Bodnant Gardens in North Wales. In its latter years at Frogmarsh it had been used by Carr Tanning for the storage of tanning liquors. And, of course, across the lane stands the well-known "Teazle Tower", a converted wool drying stove of the type that was once relatively common in the region (for a full explanation of these, see Wilson, R. GSIA Jnl (1989). pp 32-35). These structures were limited to the West of England clothing districts and were never found in those of the North.

Summary

In many ways, Frogmarsh typifies the mill sites of the Stroud valleys. Thus, the site has a lengthy history of industrial use, having developed out of a small complex of buildings comprising clothier's house, fulling and gig mills, and dyehouse. As the mill grew in size over the years, numerous changes were made, with the piecemeal addition of extra wings, blocks and detached buildings. In addition, evidence suggests that several detached buildings were effectively subsumed into the main mill complex. Such change occurred over a matter of centuries. In its construction, both the early and 19th century main blocks are typical of the area, although the former retains a number of interesting early features such as windows, drip mouldings, etc. The former clothier's house survives as part of the present industrial complex. Parts of the mill are currently undergoing yet another change of use, just one more in a steady succession. Once again, such on-going reuse is typical of the region.

Apart from remnants of bearing boxes and line shafting, there is little evidence remaining of the woollen cloth and pin-making phases of the mill's history. However, interestingly, in one ground floor part of the 17th century wing, the ceiling panelling has collapsed away from the floor beams, revealing solid clumps consisting of countless rusted pins packed between the upper floor joists. During manufacture, these presumably fell between the gaps in the floorboards and accumulated over the years!

Thanks

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N. B. Nigel Paterson is a member of the Gloucestershire Buildings Recording Group

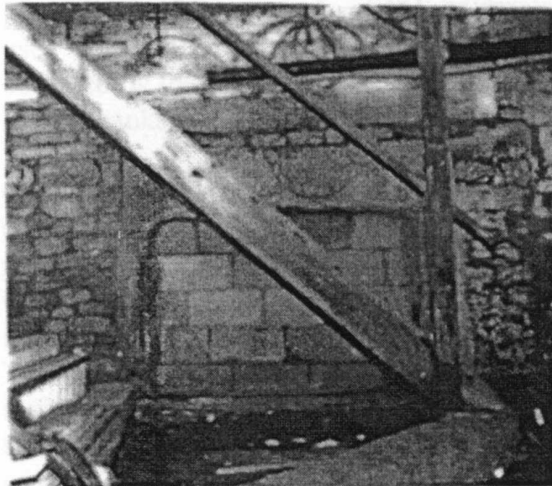


Figure 3 Part of laneside elevation.

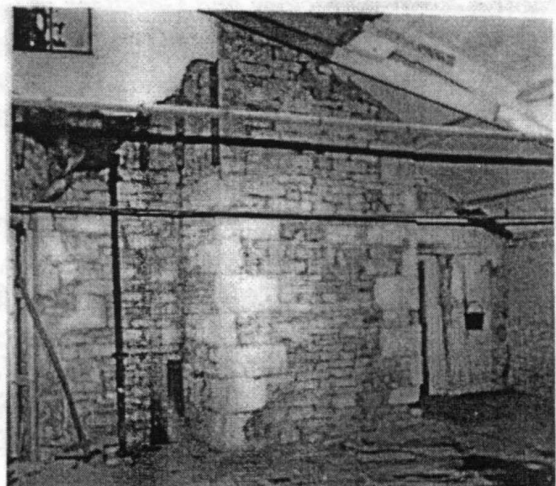
Figure 4 17th century hearth in side wall of block C.

Figure 5 External chimney in gable end of Block C, now incorporated into 19th century mill.

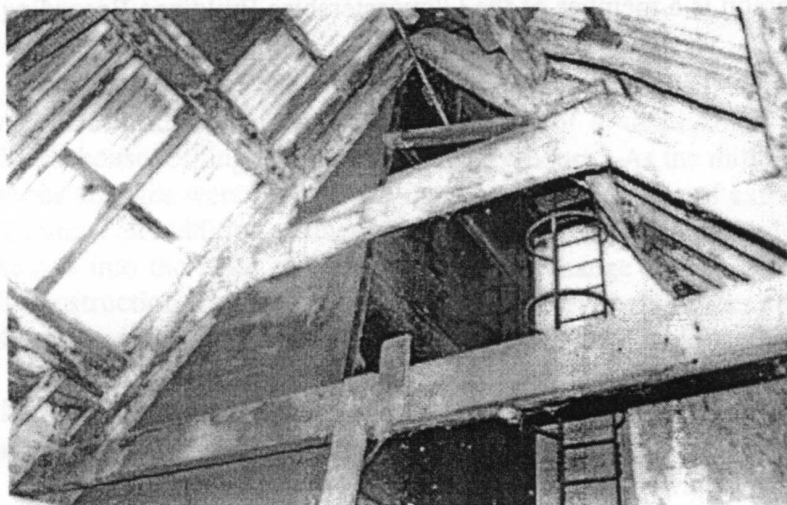
Figure 6 17th century roof truss in Block C. Note later inserted lift shaft.



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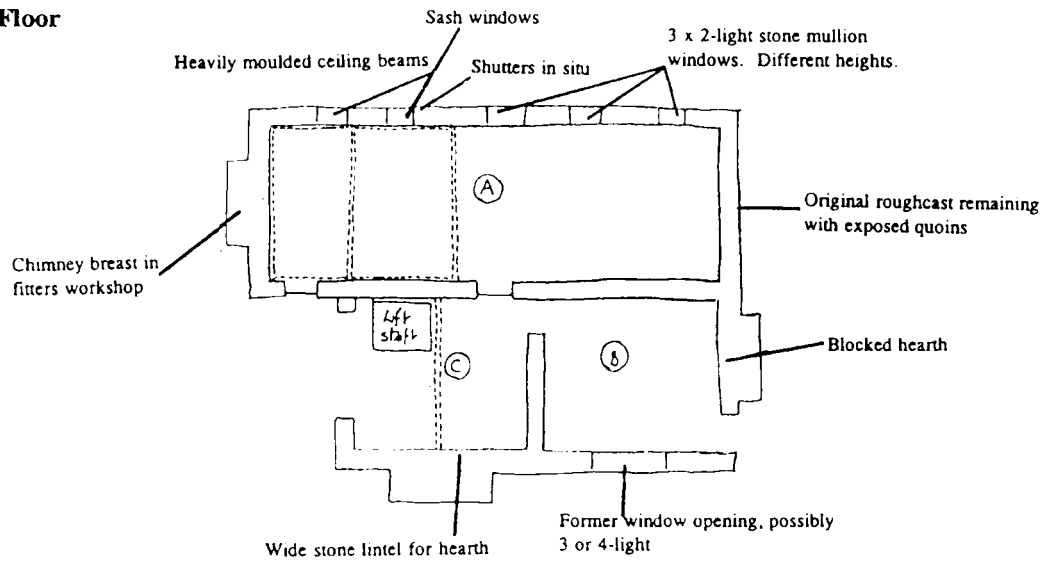


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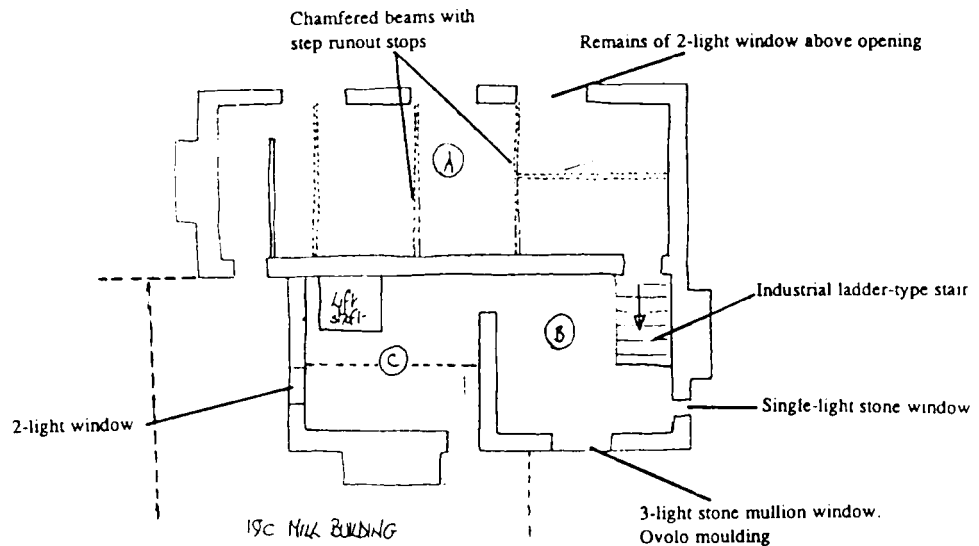


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Ground Floor



First Floor



Attics

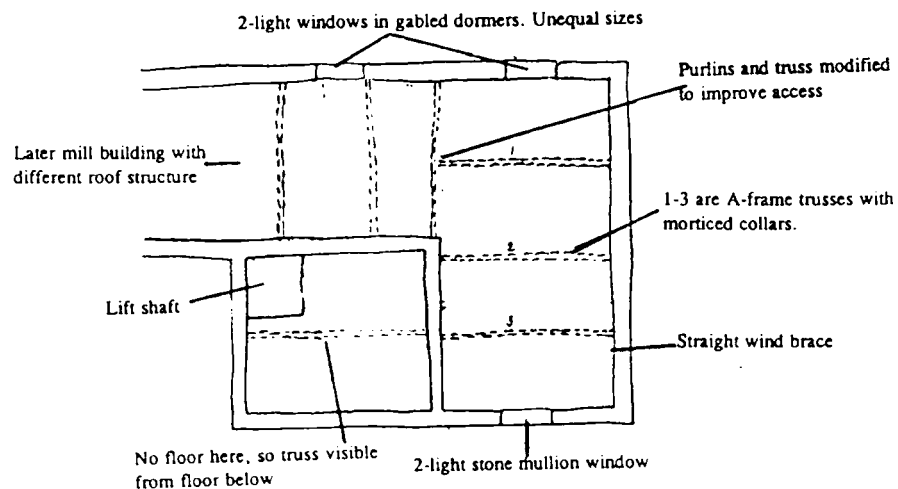


Figure 7 Sketches of floor plan of clothiers house