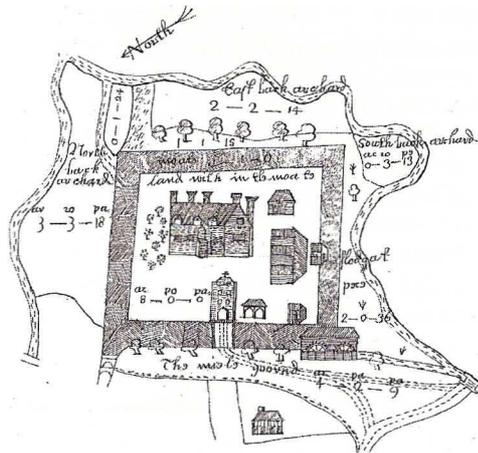


The Michelham Priory Watermill

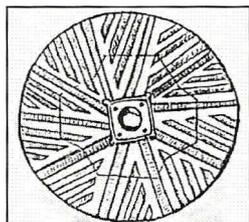
There is a story that Thomas Becket fell into the mill stream at Michelham while hunting with his friend and mentor, Richer de l'Aigle, Lord of Pevensey Castle; Thomas was saved by a miracle. Richer's great-grandson, Gilbert, founded the Augustinian Priory at Michelham in 1229. In 1255, a lawsuit took place between the Abbot of Battle and the Priory of Michelham about water levels for the mill here. This rumbled on and, in 1434, the Prior of Michelham agreed to pay the Abbot of Battle 4 Shillings annually for water. Earlier mills are recorded but may not have been on the same site.

The mill has a varied history. A Bishop's Visitation in 1478 described the two mills here as ruinous but by the Dissolution of the Priory in 1536 the profits from the mill were recorded as 53 Shillings and 3 Pence. Nearly all monasteries founded close to waterways had their own mills for grinding corn. Tenants were obliged to bring their grain to be ground at the monastic mill as this provided a regular income for the Priory.



Sometimes two or three mills are mentioned at Michelham; but this may mean one or more water-wheels driving two, or more, pairs of stones. A carpenter's drawing of Michelham watermill dated 1667 has survived and this clearly shows two water-wheels in tandem on the northern side of the mill. Later, probably in the 19th century, the waterwheel and mill-race were transferred to the southern side of the building as they are now.

The mill has been rebuilt several times, often re-using existing material. The main timber framing of oak dates from the 16th century. A portion of early stonework remains in the south wall and the existing brickwork may be of 18th century date with 19th century weather boarding. In 1896 the water-wheel was of iron, driving two pairs of stones, but all the machinery was removed after 1924 when milling ceased. For a time, a turbine was installed in the mill-race to drive a generator to make electricity for the main house. After 1928 the building became a farm store. The mill was restored twice in the 20th century. In 1971 the Management Committee of the Priory and The Friends of Michelham Priory led a project to return the derelict mill to working order. The building restoration, including the complete re-laying of the roof with old tiles, and the repair of much of the interior woodwork, was undertaken by The Friends of Michelham Priory. A new wooden water-wheel was ordered and installed in 1972.

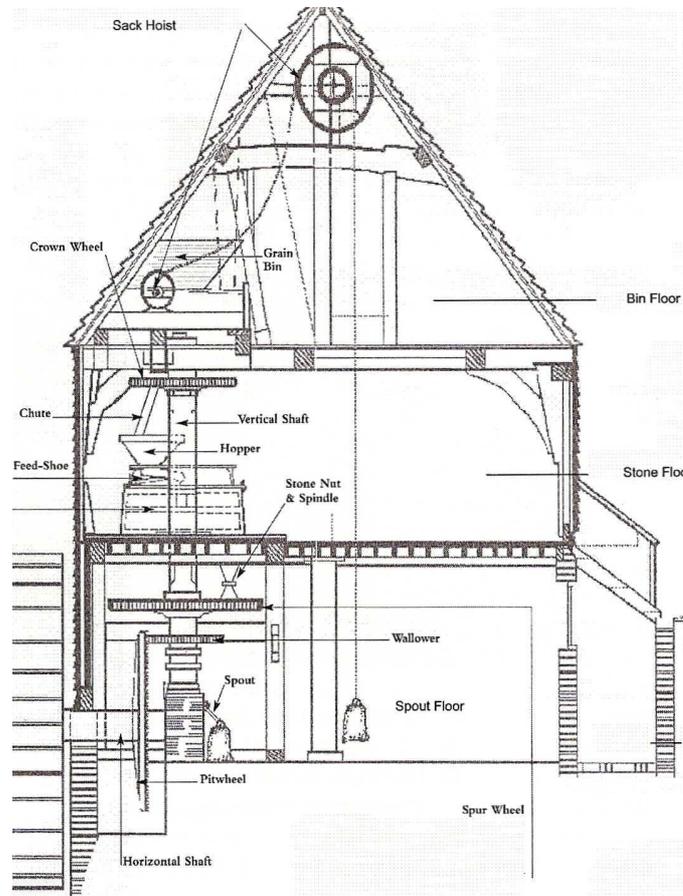


French Burr Millstone with English grooves as used in Michelham Mill.

Over the following three years the rest of the machinery was installed, including the pair of French Burr stones, each weighing 16cwt. A new main shaft was made from an elm tree from West Sussex and a new hursting of oak and elm to support the stones and machinery. This mill, operated and maintained by volunteers, ran regularly until 1995 when it literally ground to a halt through wear and tear. The Friends came to the rescue once more by setting up the Molly Pears Memorial Fund for the restoration and maintenance of the mill. Through their efforts and with help from East Sussex County Council and support from the Heritage Lottery Fund, over £60,000 was raised to get the mill working again. A cast iron wheel was chosen for this restoration project to reflect the last-known historic wheel on site as well as for ease of maintenance and greater efficiency. The new wheel, with a new horizontal shaft, pit-wheel and wallower were Installed by Janes of Wimbourne in 1997.

The watermill has been protected and preserved by many people during its long history but special mention is due to the enthusiastic and committed mill volunteers who operate the mill and open it to the public.

How The Watermill Works



Bin Floor - the top floor of the mill, used for storing grain from where it is placed in the grain bin when milling.

Mill Race - the flow of water into the first part of the Mill Race, or Penstock, is controlled by an external sluice gate. There are also sluice controls inside the mill to adjust the flow of water to the wheel inside the Penstock.

Millstones - there are two millstones. The lower Bed Stone is fixed. The top Runner Stone is driven by a spindle from the Stone Nut below. The millstones in place are of 18th century date and come from a disused mill in Suffolk. The stone is French Burr-stone which was one of the most sought-after stone types. The Tun, the round wooden cover which retains the flour as it comes out from the edges of the stones, is said to come from the famous Tidemills at Bishopstone, near Newhaven, built by the Duke of Newcastle in 1792.

Sack Hoist - this is the only original early piece of machinery that remains. It is operated by an ingenious friction clutch controlled by the miller on any floor and brings the sacks of grain up from the bottom (Spout) floor to the top (Bin) floor where they are stored.

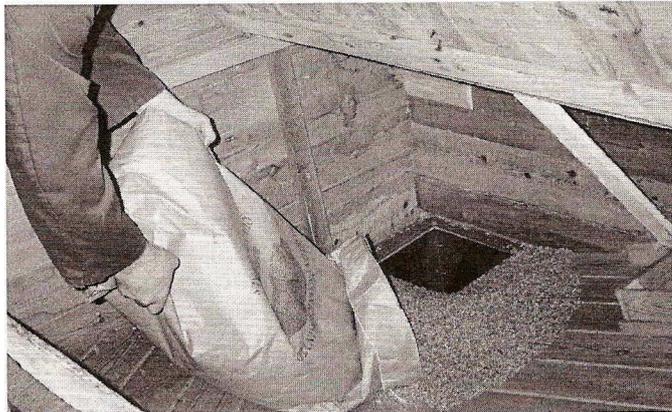
Spout Floor - where the flour comes down a spout from the stones into bags. Auxiliary machinery for cleaning grain and removing bran from the flour and for other purposes filled up much of the remaining spaces in the mill and was driven by layshafts and belts from the main driving shaft.

Stone Floor - the floor where the grain is ground between the millstones to make flour. The small room at the south end of the middle or Stone Floor was a mixing room where different grains were mixed using a wooden shovel to make animal feed.

Waterwheel - the Waterwheel is of cast iron. It is a 'breast undershot' or 'four o'clock' wheel. These terms describe where the water hits the wheel - just below the breast when looking end-on, or at four o'clock when facing the wheel and looking towards the mill. ('Undershot' describes how the water pushes the wheel under or down - an 'overshot' wheel is where the water is fed onto the top of the wheel and collected in buckets). With a full head of water in the moat the millstones can be run at about 120 rpm, but are normally worked at 80 rpm and grind about 50kg (110Ibs) of grain in an hour.

Operating The Watermill

Grain starts its journey through the mill at the top where it is stored in the Bin Floor. Once emptied into the Grain Bin, the grain falls through the Chute into the Hopper, and then into the Feed-Shoe. The feed-shoe is vibrated by the 'Damsel' (so called because it chatters incessantly!) and this moves the grain into the eye of the Millstones. After being crushed and ground between the stones, the flour is delivered through another chute into the bags on the ground or Spout Floor.



Power starts from the bottom of the watermill. Water turns the cast iron Waterwheel and the Horizontal Shaft and Pitwheel. The Pitwheel transfers power through the Wallower to the Vertical Shaft and the Spur Wheel and Crown Wheel. The Spur Wheel drives the Stone Nut which drives the Spindle that turns the running Millstone to grind the grain into flour. The Crown Wheel drives the clutch gear to the Sack Hoist which lifts the bags of grain up through the mill. The Cog Wheels are of the type known as Spider Wheels, having square centres which clasp the shafts. The gears are either of iron or have wooden cogs (or teeth) handmade from hornbeam. With wooden teeth running on iron, no lubrication is needed and the machinery runs very quietly.

Why Mill?

Once Man abandoned a nomadic way of life and adopted a system of settlement and growing crops, he had to find a way of grinding grain into digestible flour.



An early method was to rub the grain between two large flat stones to produce a type of coarse flour. This invention was the *Quern*, worked by hand and still in use in some primitive areas of the world.

Water power was first harnessed to grind corn in the first century AD. The earliest waterwheels were laid horizontally in the bed of a stream and turned a shaft to which a grindstone was attached. The speed of the stone was limited by the speed of the water. The Romans introduced the vertical wheel, turned by paddles; gears were used to alter the speed of the stones and make the machinery more efficient. This basic design has served for many centuries.

Grinding with stones preserves all the natural qualities of the grain and the resultant wholemeal flour is the most nutritious of all flours, nothing having been added or removed. All other flours such as Strong, Granary, White and others under proprietary names have had various proportions of the ingredients of the grain removed.