# ‘THE SNUFF MILL’, Stapleton

John Bartlett

Following an initiative of Mr Geoff Wallace in the late 1970s members of BIAS have been working, during their spare time, in a riverside park excavating and partially restoring an old corn mill known locally as “The Snuff Mill”, in Snuff Mill Park, Stapleton, Bristol. The original reason for the dig was the hope of finding and renovating a 12 hp steam engine which was installed in the mill somewhere around 1850 to augment the power of the Water wheel.

The Snuff Mill Park was purchased by the Bristol Corporation in 1926 for 1,000 guineas. At that time the portion of the mill building nearest the river Frome was still three storeys high. In the early 1930s, for reasons of public safety, the authorities collapsed the two upper floors of the ancient building into the lower storey and capped off the remains with tarmac and used it as a bandstand for Sunday afternoon concerts. About the same time, the mill house, stable, piggeries, wagon house and sheds, all standing at right angles to the river Frome, were also demolished making way for the present ranger’s house which was built in 1936.

Although the mill building is popularly known as “The Snuff Mill” no evidence has ever come to light to confirm that snuff was ground here. That distinction must surely rest with the mill, upstream “Witherly’s” (see Owen Ward BIAS Journal, 1969, “The Mills on the Bristol Frome”) where snuff was ground from around 1790. The mill was purchased by H.O. Wills in 1805 and ground snuff until 1843. It is from this mill that the legend of “Snuffy Jack” originates, the miller whose smock was always covered with snuff.

Chester Masters’ map of 1610 labels the mill under discussion as “Whitwoo” and shows four other mills along the Stapleton Froome. From the Wessex Water Authority’s drawing, showing the location of the weir structures and their crest levels above Ordnance Datum it is possible to calculate the fall of water level from Frenchay to Lathbury mill, Eastville Park as 25.46 m. or 823 it. From Kings mill to Lathbury the fall is 68 ft. 3 in. As the river is contained within a gorge it has cut for itself, the flow through the Stapleton valley is considerable and this may explain why none of the five mills needed mill ponds, each taking their water directly from the river above weirs. When the Bristol Avon River Authority kept records at Frenchay in 1975, their study showed the water flow varied from 200 cubic feet per second to over 2,000 cubic feet per second, all within a week. No doubt this variation reflects the relative short length of the Frome, rising in the grounds of Doddington House and flowing to meet the Avon in Bristol some 19 miles away.

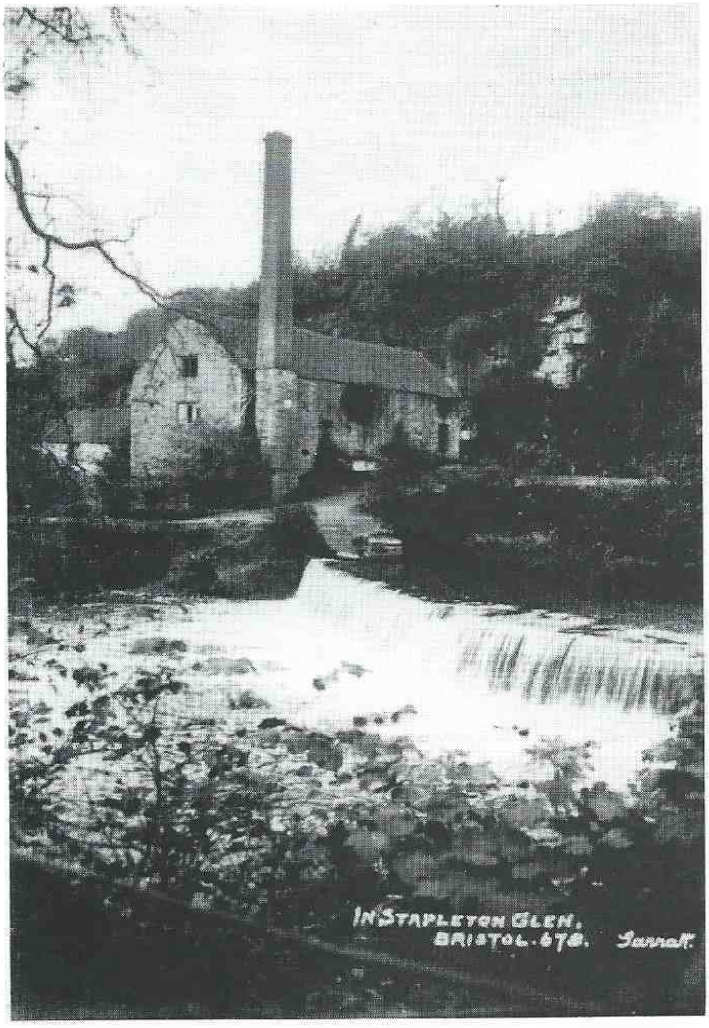
The “Snuff Mill” or, more properly, Whitwood Mill is not mentioned in Domesday but documentary evidence indicates the presence of a mill on this site since 1297. A structure of this age has probably been rebuilt on many occasions with an “Engine Room” as a later addition. One can certainly find pieces of worn and broken mill stones incorporated in existing walls.

Over the years the mill has had many occupiers. The Stapleton Muster Roll of 1608, a list of able bodied men available to the King in time of war, includes “John Whitewood, Miller, aged about 40, tall and a trained soldier”.

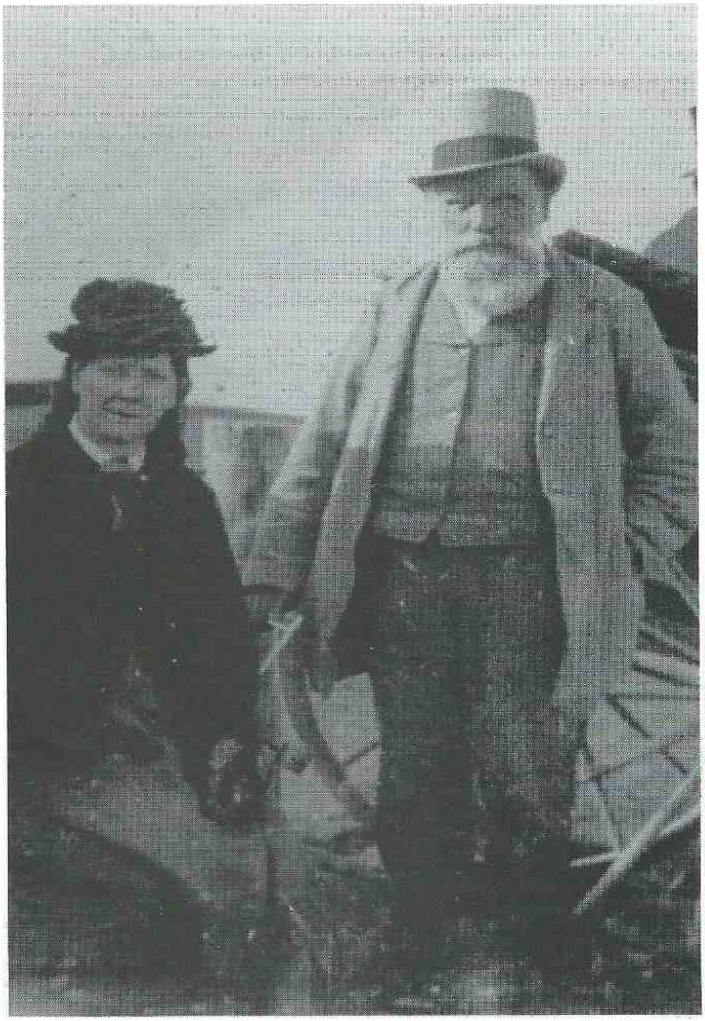
Iaacs Taylor’ s map of 1777 refers to the mill as “Bridgemans”, while the Minute Book of the Kingswood Enclosure Commissioners (Stapleton Enclosure Act of 1779) states that one Samuel Punter of Whitchurch, Somerset, claimed “right of common” as owner of a messuage (house) water grist mill and about 11 acres of land, situated at Beach hill, Stapleton, at that time in the tenure of Benjamin Bridgeman, at a yearly rent of £44. Benjamin’s will was proved in 1784 but his widow Martha and their son Joseph managed to hold on to the property until 1823, when Martha died.
Whitwood was purchased by Charles Hopkins for £1,250, whose milling career was to end in bankruptcy some 18 years later. 1841 saw the mill again advertised for sale, but it was not disposed of, to Thomas Jones, until 1846. Thomas Jones’s tenure was brief indeed for by 21 June 1846 his will was proved.

The mill now passed into the hands of Josiah Bell who must have had the necessary qualities to run the mill in a competent manner for he was still occupier and eventual owner for some 41 years. A conveyance of 1866 refers to Josiah as a “Carpenter and Builder”. Perhaps he carried on both occupations, working in the building trade when the mill was quiet or the water level too low to turn the wheel.
It was during Bell’s tenure that the 12 hp steam engine was installed in the mill to augment the water power. On 30 August 1879, J. Bell, Miller of Stapleton, was granted an outdoor beer licence at the mill house. Ownership of the Mill House Off Licence passed into the hands of the Ashton Gate Brewery Co. with John Dyke the local postman as tenant. By 1896 poor John Dyke had to get his licence transferred to Primrose Cottage, near the Frome bridge, because there were fears that sewage from the Infectious Diseases Hospital, situated on the high ground behind his beer house, would contaminate his well.

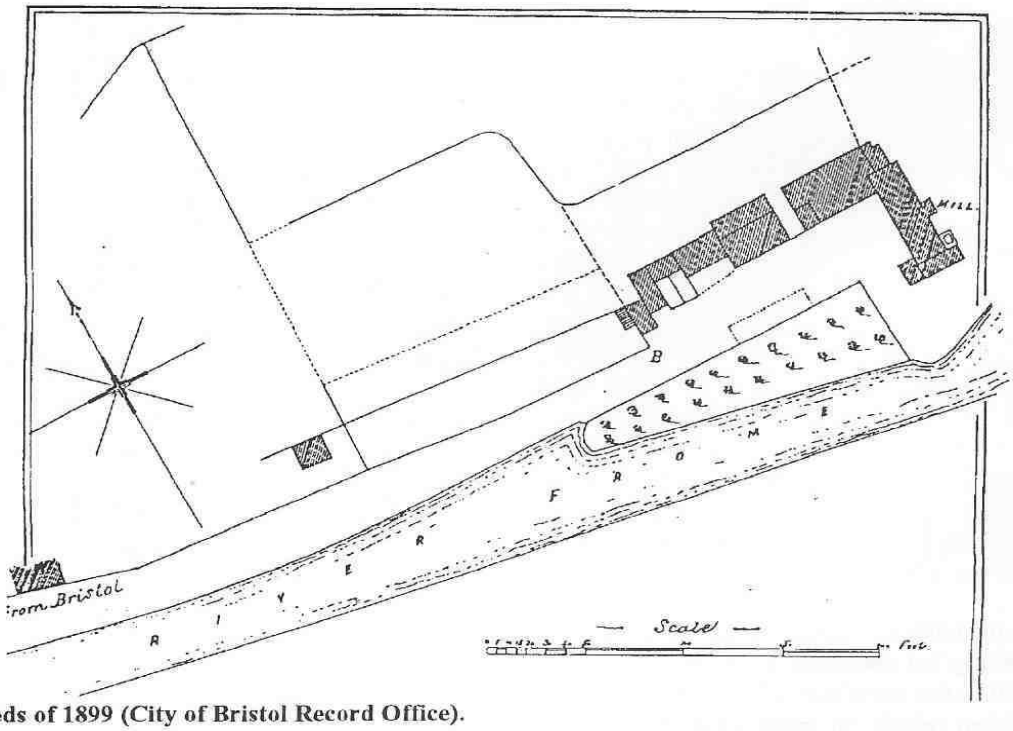
In 1899 Josiah Bell put Whitwood mill up for sale. Lot 3 of the auctioneer’ s hand bill stated that the premises included “...the Ground Floor and Three Lofts, the upper loft being 52 ft. by 182 ft. There is also a capital Stable, Piggeries, Waggon House and Sheds. The Machinery comprises ...a 12 Horse-Power Engine, a 12 Horse-Power Water Wheel, three Pairs of Stones, an Oat, Malt, and Bean Crusher, and a Dressing Mill”. The sale included the house, orchard, valuable building site and quarry comprising a frontage of 170 ft. to Snuff Mill Lane and notes that “...It is believed that valuable Pennant stone lies under Lots 2,4, and 5”.




Whitwood Mill from the opposite bank of the Frome c.1900



Josiah Bell and his wife, late 1800s




Plan of mill from deeds of 1899 (City of Bristol Record Office).

The mill was sold to Maberly Parker for £565, the price probably reflecting the dwindling use of water as a power source, with the steam providing a more convenient and controllable source of industrial power. Maberly Parker quarried Pennant stone from behind the mill building and several sites along the river towards Frenchay. He also installed a six-bladed stone saw in the stone room of the mill which could be powered from the water wheel or the steam engine.

Mr Grantley Kinchin, now in his 90s, still lives within several hundred yards of the mill and can recall when his father, Thomas Heny Kinchin, ran the mill on behalf of the owner, Maberly Parker. Grantley Kinchin claims the steam engine never ran again after his father left in 1910 "...the day after King Edward VII's death" (May 1910). The mill was used for stone-cutting, the raw materials coming from the quarries, one of which was at the entrance of Snuff Mill Park, previously mentioned as the frontage of 170 ft. The finished products were used for grave stones, building stone and kerb stones for the streets of Bristol. As evidence of this Mr Kinchin pointed to pieces of partly cut stone that lay in the river bed in front of the mill. Applewood cogs for the mill machinery came from Thomas Richards of St. Philips and in days of flood, "the wheels would be going like lightning, and when cogs broke I would have to race to Mr Richards to fetch replacements, which were specially made for the mill". As well as stone cutting, Mr Kinchin claimed the mill was used to chop swedes and mangolds for horse feed.

On 1 October 1923 , Maberly Parker, Quarry Owner, died at the Old Mill, Stapleton, intestate, leaving Hannah Maria Parker, widow and relict, who renounced letters of administration of his estate of £845 . Maberly Lawes Parker, his lawful son, Was granted letters of administration dated 24 February 1924. In an entry in the Bristol Corporation Sanitary Committee Minute Book for January 1924, (the Sanitary Committee used to administer all parks and open spaces) the City Engineer reported that Mr Parker was willing to sell the 8 acres of land adjoining the Frome, with a cottage in good condition and the ruins of the old snuff mills. Mr Parker originally asked £1,500 for this property but would accept £1,050. This statement confirms that both Wytherlys and Whitwood mills were in a ruinous state when the Corporation purchased the site on 13 February 1926 "...to be retained undisturbed as a pleasure walk for the citizens of Bristol".

The excavation undertaken by BIAS volunteers including Doreen and Bob Martin, Ron Fullager, Roy White, T.P. Dudbridge, John Penny and the author, eventually proved the steam engine had been removed at some time before the building was truncated. The 10 ft. diameter, eight-spoked steam engine flywheel, with a 32 in oval section weighted rim, is now fully exposed, together with its two cast iron support columns, 8 ft. 6 in. by 34 in. surmounted by a 16 in. oak block which supports the flywheel crankshaft. The lower ends of the support columns are bolted onto a masonry block of 63½ in. by 48 in, which shows marks of the holding down bolts of the steam engine that sat between the columns.

No foundations of an earlier building were found when trenches were dug across the floor of the engine house, but an ashpit measuring 7 ft. by 4 ft. and 3 ft. deep, complete with clinker, was uncovered, indicating the presence of a boiler, that had, at some time, been fired inside the engine house.

As the winter of 1983 approached, a paving-stone floor was laid in the mill engine house and various holes in the walls made good. Permission from the City Parks Department was sought to clear trees and shrubs and soil covering a boiler known to be close to the outside of the south wall. At this stage it was thought that the boiler would have to be moved back into the engine house. Further excavation showed that the 20 ft. by 4 ft. egg-ended boiler was in its original working situation, complete with perishing brick wheel-draught flue work still intact. All the fittings, steam safety valve, etc., from the top of the boiler, had been scavenged, as had the fire and ash pit doors and frames which had been tom out of the furnace.

In the summer of 1984, using sawn timber supplied by Mr Barton, Parks Department Woodland Officer at Ashton Court, the 19 ft. by 6 in. square floor beams at first floor level in the engine house were replaced and bedded into the walls, with the steam engine flywheel projecting up through the floor level by some 6 ft. At this stage, with the boiler and mill excavation complete, the band of BIAS volunteers disbanded, leaving John Penny and the author to carry on a limited programme of restoration.

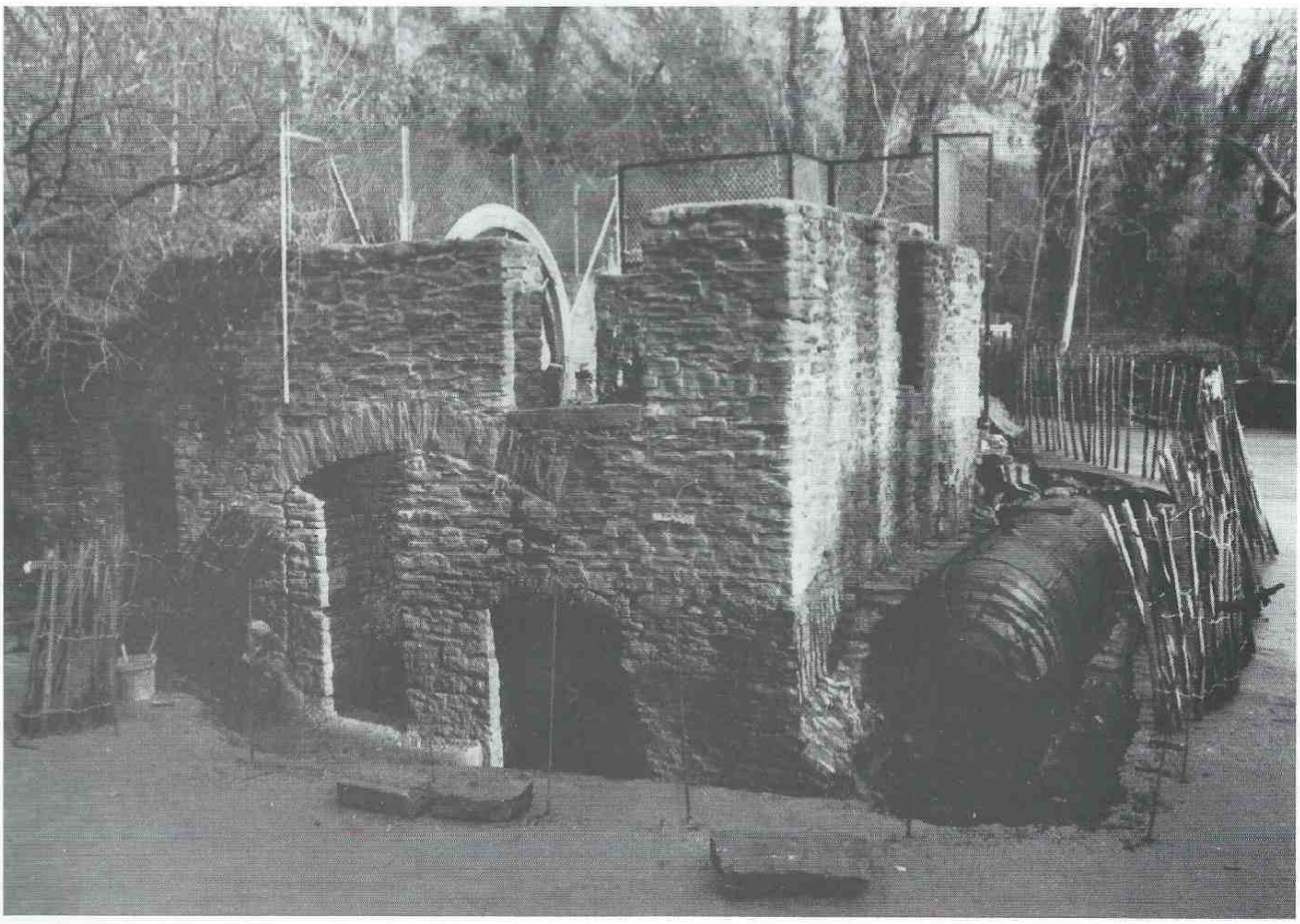
All metalwork, including the boiler, was de-scaled, rustproofed and painted. Replica fire and ashpit doors were made and installed, using angle iron and mild steel plate, to give a reasonable idea of how the original cast-iron doors would have looked. During the winter of 1985, a steam safety valve, water level gauge, manhole cover and dogs, feed valve and water-level sight gauge were manufactured by hand to the contemporary specification of the period when the boiler was last fired.

The boiler fittings were in place by early 1986 and a decision made to rebuild the brick wheel-draught flue around the boiler which, to the best of current knowledge, was confirmed as the only egg-ended boiler in the country still in its original working situation. The wheel draught was superior in use to the simple flash draught, where heat passed from the firegrate, under the lower half of the boiler, to the chimney. In the wheel-draught configuration, the flame and gases are drawn under the boiler and ascend at the back to pass through flues all around the boiler sides and thence up the chimney. In both cases the amount of draught is controlled by a damper plate, set at the end of the flue.

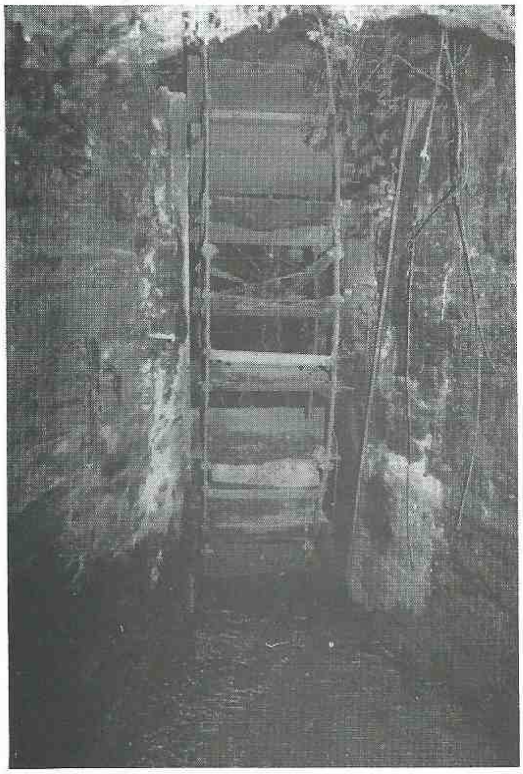
Being covered with soil, in a damp situation, for some 50 years the bricks in the flues at Whitwood were soft and crumbling and had to be removed, a few at a time and rebuilt using the correct size Victorian bricks. The flues were finally capped off with Pennant slabs, leaving the upper third of the boiler exposed to the elements, as was the custom at the time of its installation.

During this time a contact had been made with the Community Programme Agency at Queen Square, Bristol, to raise the

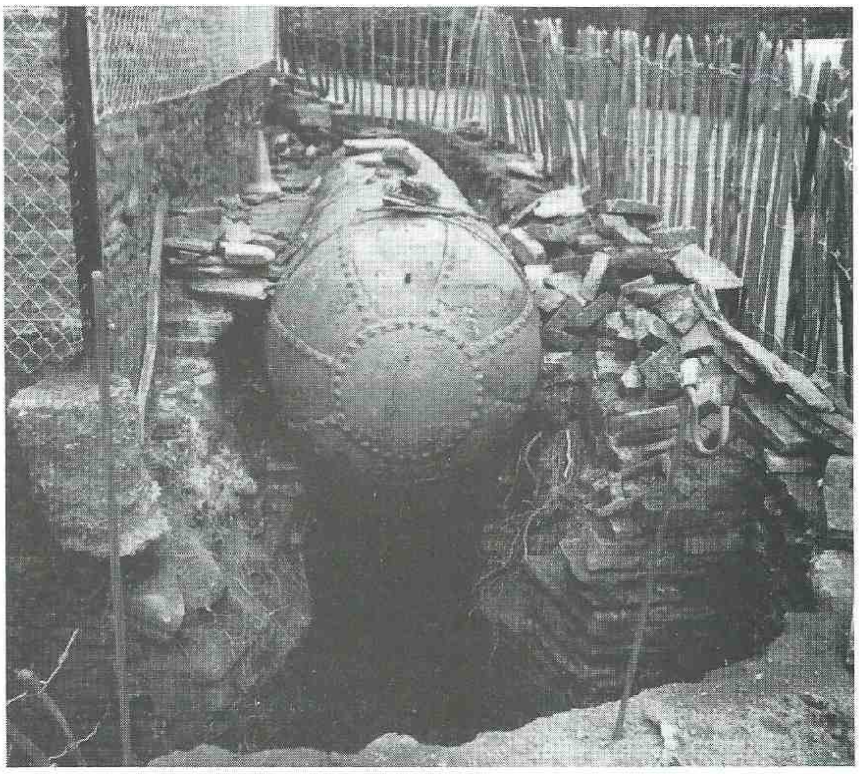

Whitwood Mill early 1930s



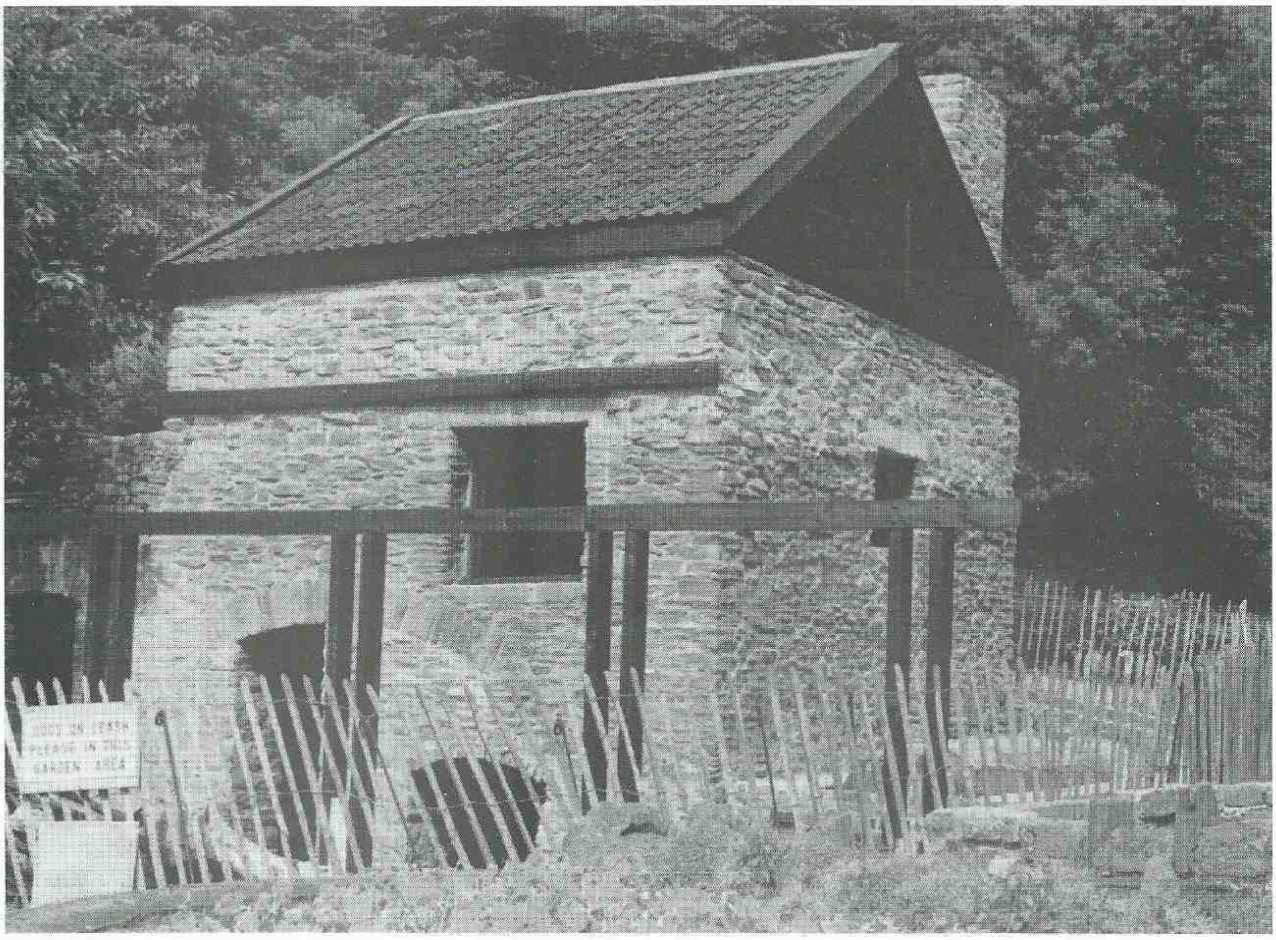
Excavation almost complete in 1984



Waterwheel from leat chamber



Furnace end of boiler as excavated



Reconstruction work in progress

walls of the engine house to second-storey height and erect a pantile roof thereon, in order to preserve what was left of the ancient building. The scheme gave work experience to men who had been previously unemployed. A lean-to roof was also constructed to protect the boiler and a second lean-to roof built over the fuel store-cum-stoking floor on the west front, similar to the 1899 plan. With the general building work completed by mid-1988, the duo turned their attention to the iron water wheel,which had not turned for a couple of years and was sadly in need of repair. The Corporation had replaced the original applewood bearings with metal ones in 1947 but, apart from keeping the wheel turning, had not treated it to a major overhaul.

The first task was to dig out what remained of the leat. Originally designed as an undershot wheel, with a sluice gate 8 ft. 6 in. high by 3 ft. wide, running in two metal channels secured to the leat walls, close to the wheel. The sluice gate could be raised or lowered to control water flow, so governing the speed of the wheel. When the Corporation purchased the mill they had raised the ground level between the mill building and the river to provide a riverside Walkway. The leat tunnel had been collapsed at its riverside entry and water to turn the wheel, for ornamental purposes only, provided by a 12 in. diameter iron pipe, controlled by a valve at the waterside.

The leat tunnel within the mill building is stone-built with an arch ceiling and measures some 10 ft. wide by 7 ft. high. Fifteen feet is still intact and into it the 12 in. iron pipe discharges its water supply. This portion of the leat was choked with a pile of stone, mud and rotting debris 5 ft. high. With the sluice gate long gone stone, and rotting tree boughs would become dislodged at times of flood and get jammed under the wheel. The debris had to be cleared by hand and wheel barrowed to the river bank for disposal. Access was provided by removing a number of floats from the water wheel. With the leat cleared and the wheel stripped of its iron floats, repairs to the Wheel itself could begin.

George Watkins, then a Visiting Fellow of the Centre for the Study of the History of Technology at Bath University, saw the water wheel and steam engine in situ in the 1930s. He described the water wheel: “as 14 ft. 6 in. diameter by 2 ft. 9 in. wide, with 32 curved paddle floats or starts of wrought-iron with wrought-iron formers, held by 3 bolts. The rim was in 4 sections of 8 buckets each. There were 8 cast iron arms each side, with wrought-iron diagonal stays which hold in slots in the hub. Drive was by an 8 in. cast-iron shaft with 4 keys. Water was let on by a diagonal sliding hatch at about the 6th bucket but the hatch would go to the 9th one. The wheel had an old form of hub driving at the edged key only.

An inspection of the water wheel showed bolts missing from the wrought-iron rim and rivet holes worn oval by constant movement over the years, allowing the wheel frame to flex and emit loud creaking noises as it turned. At one point the wrought-iron rim had cracked through. The rivet holes were built up by electric arc welding, as were shorn rivet heads. The cracked rim was patched and welded and the missing bolts replaced.

The stripped wheel frame was cleaned of rust and algae and then painted.

Ten new floats, 3 ft. by 2 ft., manufactured by Dorothea Restoration Engineers and paid for by the City Parks Department, were painted and fitted. During rebuilding the wheel was balanced so that it would turn with less effort when the water supply was limited. A further improvement of the wheel’s performance was achieved by fitting a 3 ft. metal “dam plate” in the old sluice gate channels which, allowing a 3 ft. head of water to build up in the leat, then crested overt he dam plate, fell onto the wheel floats and greatly enhanced its efficiency. The optimum height of the dam plate was found by slotting sawn-off lengths of scaffold plank into the sluice channels and observing the results. Too high a dam plate and the water would not fall onto the floats.

It is regrettable that more mill machinery has not survived, having been scavenged at the time of demolition, or for the war effort. George Watkins described the steam engine he saw in the 1930s, as 12 hp crank over head, side valve, non condensing, about 12 in. bore by 24 in. stroke. The drive shaft from the centre of the flywheel was 10 ft. 3 in. above floor level and extended through the engine house wall, over the top of the water wheel, and into the stone room.

Few artefacts of any consequence were found during the excavation, no doubt because the building was cleared before demolition. A flagon beer bottle, half full of oil, bearing the legend “Sunrise Brand, Ashton Gate Brewery Co. Ltd.” was uncovered in the corner near the engine site and was possibly used by the engine operator to “oil the works”.

Whitwood mill is situated in a public park with access at all times. Visitors to the site should look out for a 4 fi. diameter mill stone, recovered from the river near Kings mill. Also, all original metalwork has been painted black, while the replica metalwork is painted green. In an effort to mimimise vandalism, railings had to be erected all round the site but do not obscure the public view of a working water wheel and an unusual, early-type boiler, on an authentic site.

## Sources:

Bristol Record Office,
Bristol Central Library,
Gloucester Record Office,
Public Record Office, Chancery Lane, London,
Guildhall Library, Gloucester,
Ironbridge Gorge Museum Trust Library,
Stationary Engine Research Group,
George Watkins Library, University of Bath,
Lawford Gate Register of Beer Houses,
List of Licenced Premises 1891 and Gloucester County Library,

A. Braine, A History of Kingswood Forest (1891),
John Smith, Men and Armour for Gloucestershire in 1608 (1902).