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# On Her Majesty's Service

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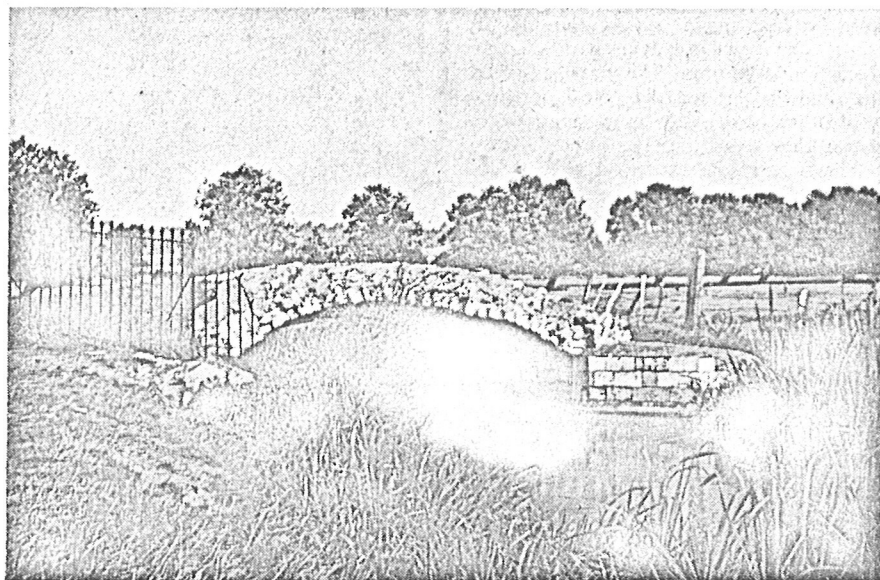
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'Some Notes on the  
Watermills on the River dea.'



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Harold's bridge over the Cornmill stream, Waltham Abbey.



*Some notes on the*

## **WATERMILLS ON THE RIVER LEA**

**A**BBEY mill at Waltham Abbey was owned in the 1880s by James and Tom Carr. It was adjacent to the Romeland, where the cattle market granted by Henry III is still held on Tuesdays, and within sight of the west door of the abbey church, and was destroyed by fire, I believe, in the 1920s. There were two breast water-wheels, some twelve feet in diameter and six feet wide, driven by water from the Cornmill stream.

The Cornmill stream, an artificial channel believed to have been dug by the monks of King Harold's monastery, diverges from the River Lea at Fisher's Green and flows for a mile or so through water-meadows yellow with buttercups in early summer and only last winter covered by a sheet of ice due to the stream having overflowed its banks during a cold spell.

\* \* \*

These meadows have that air of peaceful tranquillity about them which is so well portrayed in Vaughan Williams's *Fantasia on a Theme by Thomas Tallis*, and as Tallis was born at Waltham Abbey in 1510 and was organist there in his early thirties perhaps it was walks beside the Cornmill stream that inspired that particular theme.

The clear waters of the Cornmill stream can still be seen flowing smoothly down

Having read with interest the article by C. O. Harvey in last October's issue, Mr. Dee says he was prompted to write down his own observations and discoveries relating to mills on the Lea. "Being of a third generation born at Waltham Abbey and having lived and worked in the town for the past thirty-eight years I have memories of how things were before the recent tide of development started to encroach," he says.

the concave faces of the wheel pits, the sides of which still show grooves worn by the rumbling water-wheel.

William White in his *County of Essex* for 1848 states that "Waltham Abbey is of low situation near the River Lea . . . which forms several small islands partly occupied by the royal gunpowder mills and magazines. Some of the corning mills were blown up in 1801 and 1843, and on the latter occasion seven men were killed."

\* \* \*

I have in my possession a reproduction of a print of 1735 showing the mills of Waltham Abbey and inscribed "To John Walton, Esq., proprietor of these mills, this plate is humbly dedicated by his obedient humble servant J. Farmer." This print is in the form of a Christmas card available to employees of the gunpowder factory and was given to me by my grandfather, Mr. William Perry, who served there for forty-seven years, retiring in 1938 but returning almost immediately in his capacity of foreman for the duration of World War II.

The various mills depicted in the print are tabulated as follows: 1, a horse mill; 2, the corning and glazing engine (showing an enormous water-wheel reaching up to the eaves of the adjacent building); 3, 4, 5, three horse mills; 11, 12, two stamping mills (with smaller water-wheel between two buildings); 13, 14, two dumb mills.

WRITTEN AND ILLUSTRATED

*by K. H. Dee*

The Waltham Abbey powder mills are the best known. Gunpowder was produced at what is now the Royal Small Arms Factory at Enfield Lock. This lies mainly to the east of the River Lea and is therefore in Essex. In 1653 Cromwell's Long Parliament entreated with John and Henry Wroth of Enfield to make use of certain mills in their possession on the River Lea called the "Lock" for making gunpowder.

By 1816 small arms manufacture had begun and seven years later the twenty-seven-acre factory became known as the Royal Armoury Mills. In 1853, the year when James Nasmyth introduced improved manufacturing methods, it was reported that two forty-six-horsepower water-wheels were in service, and by 1860 over 90,000 rifles were made in one year.

Evidence of milling operations can still be seen near the Royal Small Arms Factory.

The Royal Gunpowder Factory's Christmas card in 1950 depicted the offices of the mills in 1851.

Across the River Lea at a point just before its diversion around the Chingford side of the King George reservoir there is a weir built of a series of millstones standing on their edges side by side across the full width of the river, thus causing the water to descend gracefully in an unbroken circular arc instead of the more usual splashing turmoil. In the summer of 1949, when the Lea was reduced to a very low level, these millstones remained exposed and dry for some weeks.

Having spent some years around this time training to become an engineer within the closely guarded boundary of this establishment, I remember a large paved area, used for stockpiling coal, which was composed of dozens of millstones, some with the harp pattern of grooves visible, laid flat, with the spaces between and the square centre holes filled with concrete.

\* \* \*

There is, however, another mill on the Lea Navigation which has been in existence since the sixteenth century and today still produces "stone-ground flour" and cattle foods. Although situated at Ponders End, in Middlesex, it is within sight of that part of the Essex boundary which follows the meandering course of the old River Lea beneath the reservoirs.

During the reign of Elizabeth I a charter was granted by Act of Parliament for a new mill to be erected at Ponders End. Two breast wheels were provided to drive seven pairs of millstones. The mill continued in operation in various hands until 1853, when it was purchased by the East London Water Works Co., which under

the River Lea Water Act of 1865, jointly with the New River Company, obtained powers to abstract the whole flow of the river with the exception of 5,400,000 gallons per day needed for navigation purposes. This threatened loss of water, culminating in the opening of the King George reservoir in 1913, was no doubt the cause of the following transition from water power to electric power.

\* \* \*

The mill was rented by the waterworks company to Mr. C. D. Young, who, joined in 1868 by Mr. G. R. Wright, ancestor of the present owners, in 1880 partially rebuilt the mill and added five additional pairs of stones and a steam engine. Around 1900 some of the millstones were replaced by the roller mill system and nine years later the mill became the second commercial undertaking to use electricity from the

newly opened Northmet power station at Brimsdown.

During World War II a fleet of Foden steam lorries was brought back into use for delivery purposes owing to petrol shortage.

As recently as 1967 barges of grain could be seen arriving at the mill via the mill head stream and the Lea Navigation. Unfortunately, in August last year the mill was badly damaged by fire, but has since been repaired.

\* \* \*

Ponders End mill, despite modern industrial development, still stands in a rural setting some quarter of a mile square. It is bordered by the Cambridge line of British Rail, the Lea Navigation and a new elevated roadway. On another side is the now neglected old road which leads eastwards from the railway station, past where the white-painted mill gates once stood beside the square, centre-chimneyed lodge, past the ancient brick wall where a mulberry tree still drops its purple fruits on to the narrow pavement, and over the mill tail stream where horses graze in the shadow of trees and boys fish on sunny days.

**Acknowledgments:** *County of Essex*, by William White (1848), the Enfield official guide (1959), *London's Water Supply*, the Metropolitan Water Board (1961), *James Nasmyth*, by Samuel Smiles (1912). ♦

The site of the Abbey mill, Waltham Abbey. Cornmill stream is diverging to the two mill-wheels. The building in the centre was formerly the Cock inn.



The Offices in 1851

The Royal Gunpowder Mills  
Waltham Abbey

