

A Third Pair of Millstones is Put to Work at Crabble Mill

17

PAUL JARVIS

CRABBLE CORN MILL went out of commercial business around 1890 and stood idle but preserved as a storage facility until the Mannering's milling business stopped in the early 1950s. The mill was initially taken over by the Cleary Foundation, and later by the Crabble Corn Mill Trust. The stones which are the subject of this report are the central pair of five.

With two pairs of stones already working, the Trust decided that it would be a good thing to get the third pair into working order after standing idle for over 100 years. The refurbishment is described here. To start with, the furniture was dismantled and examined. The hopper, horse and casing were mostly complete but had suffered a small amount of damage and beetle attack, which had been treated. The shoe was in poor condition and considered to be "time expired".

The hopper was cleaned and minor woodwork repairs carried out to its lower parts. A spattle was made to regulate the flow of grain to the shoe, and all worm holes filled with plaster. After being sanded, sealed and painted with a couple of coats of varnish stain the hopper looked almost as good as new.

The shoe was exchanged with a very well made one which belonged to the next door pair of stones, having a cut-away casing for demonstration purposes. It was found to fit nicely, only needing the "rap", the block of wood against which the damsel acts, to be moved to a working position. The shoes were therefore exchanged.

The horse was lightly beetle attacked and was treated as for the hopper. A pulley wheel to guide the crook string

over the edge of the casing was missing and a new one made and fitted.

The alarm bell was missing and the wooden spindle on which it had been mounted had split badly and was unserviceable. A new spindle was made and a sheet steel 'bell' fitted. It does not ring very well and should be replaced when a suitable brass bell becomes available.

The casing was found to be sound but, again, with minor beetle attack. It was treated as for the hopper and minor repairs carried out to both casing and floor-mounted guides. With a new crook string, a tag and string to operate the bell, and a string to secure the grain control spattle, repairs to the furniture were complete.

Below the stones, the original meal chute guided the meal into a screw conveyer, the first stage for taking the meal to the sieves upstairs. A new chute was made to divert the wholemeal flour directly into a bag, keeping the original chute as part of the historic equipment of the mill.

Some repair was needed to seal the upper (and original) fixed part of the chute where the meal leaves the casing. Decay of the woodwork and indifferent carpentry had created holes which had been sealed, apparently in the mill's working days, with pieces of sacking

18 pressed into position. Repairs here were carried out by using cloth, impregnated with plaster, pressed round inside the chute. When set, this has produced a nice clean dust-tight path for the meal to travel through while at the same time retaining as much as possible of the original millwork.

The runner stone was lifted and turned over for inspection. The state of dressing on both runner and bedstone (French burrs) was found to be unsatisfactory, basically because the furrows were very shallow.

We had experience with the adjacent pair of stones which "pasted" or filled the furrows on the outer several inches of diameter with compacted flour, causing overheating of the meal, which emerged as compressed flakes. Examination showed the furrows to be too shallow to allow sufficient air to pass through with the grain to carry away moisture released from the wheat during grinding. If this dampness is not blown away, the moisture can condense on to the cool stone which becomes sticky, causing the problem described. The moisture content of the wheat was about 15% which should have been satisfactory had the stones been in good order. Dressing the stones, taking particular care to deepen the furrows brought grinding back to normal.

It was therefore decided that dressing was needed to make sure the problem of "pasting" would not occur. Traditional methods of testing the stone with proof staff, paint staff and raddle were used, the only modern variation being to use tungsten carbide tipped mill bills which hold their sharp edge many times longer than the traditional tempered steel bills. Curiously, a close inspection of the grinding faces showed that these stones must have last been dressed using a millstone dressing machine with a

diamond cutter. The lands were covered by a pattern of mechanically straight lines spaced very evenly at some 16 to the inch. What, we wondered, happened to the dressing machine? Probably went for scrap. Dressing completed, attention was paid to the spindle bearings. The spindle was lifted from the brass pot bearing at its lower end, which was found to be in excellent condition with a deep oil groove present to lubricate the lower hemispherical end of the spindle.

The all-iron stone nut and its jacking gear together with the bridge tree and tentering equipment were all found to be in good condition, needing no attention other than clearing and lubricating. The bearing in the neck of the bedstone was cleaned and examined and found to be in a virtually as-new condition. It consists of two brass segments and a brass tipped "grease wedge" set in a cast-iron bearing block wedged into the eye of the bedstone. The wedges were all secure. Some shimming of the brass segments was needed to get the spindle running nicely.

The iron "hackle plate" over the bearing which keeps out grain and dirt, was missing, so a new one was made. The four original screws having become "time-expired" were replaced by new ones specially turned up and threaded. Instead of the traditional leather sealing washer over the bearing, a seal made from a vinyl flooring cut-off was made. The behaviour of a similar seal on the second pair of stones has been encouraging, but its effective life as a seal material is yet to be determined. Before securing the hackle plate a wick was made from some unravelled rope, saturated with oil and secured between two brass segments to assist with neck bearing lubrication.

While working on the top bearing,

the level of the bedstone was checked using the original "gable" belonging to the mill and found satisfactory. A newly made "jackstaff" with its feather was used to check that the spindle was accurately "square" with the bedstone face. the runner stone was then replaced and its static balance checked as OK. Finally attention was given to the damsel. the iron bridge bar set across the eye of the runner stone was found to have a circular rather than the more usual square extension on to which the lower end of the damsel is fitted. the was not a damsel in the mill which fitted this, but a broken one was found. This was repaired with a fabricated bottom end which fitted the bridge bar satisfactorily.

All was now ready for testing. Was everything really in good working order? We would soon find out. A modest amount of wheat was put in the hopper, the shoe filled and a quantity

put into the eye of the runner stone to give things a start, and the stone nut engaged.

Time to hold one's breath as water was put on to the wheel. No need to get excited, the stones started to grind as though they had never had a day's, let alone a hundred years, rest. the only things needing adjustment were the pivot points on the tentering governor's steelyard to ensure that grinding quality remained constant when the mill changed speed. The first grindings were of course discarded, as they contained a noticeable amount of grit from the freshly-dressed stones, and, when they had been cleaned out, the stones went into production making organic wholemeal flour.

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HEAVY RAINFALL HELPS OUR RIVER DOUR

JOE HARMAN

THE RIVER CAME FROM SPRINGS that rose at Waters-end just north of Temple Ewell. The name Ewell meant a spring or a river source in Old English. The stream formed the Watersend Lake and ran through the village, where it powered a mill and on through a lake in the grounds of Kearsney Manor to drive another mill. From there it passed under the road to join water coming from the Alkham valley.

The spring above Chilton Farm which fed the Alkham stream was fairly constant and it is shown on an estate map of 1774. There was sufficient flow in it to build a paper mill at Bushy Ruff in about 1792. When this paper mill was put up for sale in 1847 the description mentioned a plentiful supply of water from springs. It appears that an extra storage lake was excavated on the north side of the Alkham Valley road to supplement the supply to the south of the Alkham Road. This new lake was fed from the spring below Chilton Farm which might still flow even if the higher spring dried up. The flow of water in the valley always increased if there had been plenty of rain in the winter part of the year.

The owners of the Temple Ewell Mill, when they found that their supply was not constant, put a stationary engine in the building now used by the D.O.D.S. to pump up sufficient water for their needs.