



SOCIETY FOR INDUSTRIAL ARCHEOLOGY

NEWSLETTER

Volume Six Number 2

March 1977

RECIPROCATING FRAME SAW AT THE O'HARA MILL

In many of N. America's newly-settled wooded areas, one of the most important industrial sites was the sawmill with up-&-down, or reciprocating, frame saw. Unfortunately, the documentation and preservation of sawmilling equipment has not been a primary objective of historians, preservationists, or museums, and with rare exception, woodworking history tends to be confused and neglected. The result is that sawmills—an extraordinarily significant class of structures and machines—are misunderstood and poorly represented in museums and preservation programs. In many parts of N. America surviving early woodworking machinery simply is deteriorating, without protest. Even when it is recognized as historic, not often is it given the interpretation and physical attention it merits.

A striking example of unappreciated—and therefore endangered—but very important historic woodworking machinery is on the property of the Moira River Conservation Auth. (MRCA) near Madoc in eastern Ontario, where it is being preserved, after a fashion. It appears to be the only original reciprocating frame-saw in Canada, and one of a handful in N. America. Ironically, though, not until a visit by the writer did MRCA realize that it was a frame saw. Their publications listed it as a "Muley saw"—a later and less significant development.

The O'Hara Mill was built sometime in the 1840s. It operated continuously until 1908, sporadically for another 20 years, and closed permanently in 1928. Remarkably, the derelict mill never was vandalized.

The most unusual feature of the mill itself is that it has survived. Its design is the essence of simplicity. The major components are relatively few. As in all frame saws, the blade is held under tension, here in a massive wooden frame over six ft. x six ft. Saw and frame are driven directly through a connecting rod by a primitive



Norman R. Ball photograph.

horizontal reaction turbine. The mass of the reciprocating frame limits the speed of such saws to 100 strokes/min. or less. O'Hara normally operates at less than 50. The carriage—all wood except for a few pieces such as the dogs and rack & pinion—moves on inverted-V hardwood rails. The turbine, working pawls acting on a rag (ratchet) wheel, drives the carriage forward. The return—now by hand—once was provided by a Norse wheel. The turbine probably was a late-19thC replacement for a less expensive, but less efficient, wooden flutter wheel.

The problems created by limited water supply, rather than the ravages of time, have caused the mill to suffer its worst indignities. Efforts by MRCA to cope with this problem led to abandonment of the Norse wheel, and the earlier penstock has been replaced by a metal pipe, sheathed with wood in an attempt to give it the appearance of wood-stave pipe. No one is fooled. Even with reduced loss the supply is inadequate. It is proposed that modern technology come to the rescue, in the form of one of the hot rodders' favorites, the Chevy V-8. It has been argued by some of the board that the mill is being retained solely to let visitors see the saw go up and down and the nature of the prime mover is irrelevant; thus the acceptability of the engine.

There are far more acceptable solutions to the very common—and in fact, relatively minor—problem of limited water supply. One is to recirculate the water with an electric pump, a solution used at the Muley Saw & Carding Mill at Upper Canada Village, the Flour Mill at Black Creek Pioneer Village in Toronto, and elsewhere. Also, the terrain is quite suitable for enlarging the millpond. Nor is the number of visitors so great that it is necessary that the saw run daily or even weekly.

The future of the mill's operating components is uncertain. It is to be hoped that future repairs and modifications will bring the mill closer to, rather than further from, original appearance and operation.

The O'Hara saw, the later Muley saw at Upper Canada Village, and other extant, but languishing eastern-Ontario sites have enormous interest and potential. The lumber industry once was an important part of the region's economic foundation, and fortunately significant material remains survive. One only hopes that they will be appreciated, understood, and preserved before it is too late, again. *N.B.*

THE PETERS CARTRIDGE FACTORY

From across the rolling farmlands of Warren Co., Ohio, near Kings Mills, [5 mi. SW of Lebanon] rises a tall, slender tower reaching skyward out of the forest-covered valley of Deerfield Gorge. Clustered around the ten-story shot tower—one of a handful surviving in the U.S.—are the remains of the Peters Cartridge Factory. The major buildings on the site are early 20thC, of substantial reinforced-concrete with 11-in floor slabs, the exteriors faced with brick and tile. The plant's electricity originally

was generated by the Little Miami River, across which are the crumbling remains of an affiliated black-powder mill dating to the 1870s. Included there are a two-mile headrace and the foundations of such structures as a "Glaze Separator" mill and a "Rifle Corning" mill. A nearby museum displays spark-preventing brass horseshoes used by the animals that transported materials among the mills.

The company town of Kings Mills, complete with paved streets