

Some notes on lumber company complexes near Manitowish Waters and
the distinctive equipment of logging railroads

from Michael Dunn May 2017

Logging in what we consider Manitowish Waters was influenced most
by the lakes of the Manitowish Chain, by the river for log drives below
Rest Lake Dam, and by common carrier railroads that touched the chain on
Rest Lake and Little Star Lake.

Not all the areas with very fine timber had those advantages and
they had to use different tactics and distinctive equipment.

Because some of the interesting logging operations took
place almost next to the logging around the chain, it is interesting
to point out the difference between the Manitowish Waters area and
the logging in our neighbors to the north, especially Winchester and
Winegar--originally Fosterville and now Presque Isle.

The soil was heavier and the variety of tree species was different.
Hardwood species--deciduous trees predominated, rather than pine. Their
logs were not suited for river driving, but there were no streams for
driving in the northern part of Vilas above Manitowish Waters. The
terrain was much more rugged where the moraines had been formed.

The answer, then, was to harvest the logs and saw them into lumber
right on the spot and then ship out the finished lumber, and
the logging railroad was the means that the lumber companies used.
Branches of the Chicago & North Western Railway were the route used to ship
out the lumber from the three notable sawmills in northern Vilas.
The Turtle Lake Lumber Company established Winchester and operated there
from 1905-6 till 1926, and the Vilas County Lumber Company operated
at Winegar. At Phelps, farther east, Hackley Phelps Bonnell^{was}
the lumber company and it had the most complete array of activities--

it even dabbled in wood chemicals and charcoal-iron and lasted long enough to inspire later industries into the 1950s (which even lasted into the 1970s.) The North Western served it with a branch from Conover and for a time the North Western even routed its overnight sleeper-equipped passenger train into and back out via Phelps on its way between Chicago & Watersmeet.

Each company built a complex that included a company village of uniform houses for the employees and a sawmill and in some instances a shingle or lath mill. The settlement would include a school, a boarding house and maybe a hotel, a community building, and especially, a company store. For the lumber company the store was a profit source because it forced its employees to shop thereby paying them not in US currency but in tokens that were equivalent in their valuation to true currency and were valid only there--jingsheng money was one term for it.

Two other typical installations were a hot pond where logs were dumped to rinse off as much of the saw-dulling dirt as possible-- it got its title of hot pond because it could be heated by excess steam from the sawmill boilers. And the other facility was an engine house for the logging locomotives. Mechanically minded members of the logging train crew would do the maintenance work on their engines and maybe had a machinist or blacksmith to help them with the engines and log cars. It was the hub of the logging railroad, ^{which} fed the sawmill. Logging tracks were laid wherever it made sense to reach valuable stands of timber and often they were pulled up just as quickly as they had been laid since there would be no further use for them after that. The materials were too valuable not to be used again and again.

There was no specific format for the locations: they wandered in all directions and dumped their trainloads of logs in the hotpond, where men guided them onto the endless chain that took them up to the saws on the mill's second story.

The new lumber would then be piled on high stacks to air-dry and would eventually be loaded out for shipment onto boxcars that had been set out on the tracks that lay between the stacks. Then of course the branch line train would pick up the loaded cars at the same time that it made its scheduled trip up to the village, for it brought ^a passengers and mail and supplies for the company store, and perhaps once a week the mixed passenger and freight train would bring along a refrigerator car from the meat company like Swift, for the store served not only as the market for the workers but for the community at large and served as the commissary that supplied the logging camps. Logging trains did not use cabooses but the companies usually had one enclosed car for the camps' supplies.

The crown jewel for the lumber companies that operated logging railroads were the locomotives and cars that were characteristic of that form of railroading and not found in common carrier mainline railroading. It was all designed to operate on uneven tracks or undulating ones, sharp curves and stiff climbs. And where possible it had to be cheap. Many logging locomotives went through three or more owners in a working lifetime--they were not cheap but they were indestructable.

The log cars were simple, almost crude. They were skeleton cars consisting of a central beam that had the couplers at both ends and crossbeams upon which the logs were loaded. The trucks were simple too, four wheel trucks. The cars were sometimes referred to as

Russel cars for an influential manufacturer in Michigan. Like the cars themselves the couplers were crude--a type known as link and pin but very cruel to the trainmen. On the end of the car was a pocket and what held the cars together was the link in its name, a paper-clip shaped chunk of iron about a foot long and about one inch thick. To couple cars, the engineer eased the train to within a few inches between cars, and a crewman had to slip the heavy link in between the two pockets and then drop a pin into each pocket to complete the coupling. Many a finger was mangled by hapless crewmen. Stakes or chains held the logs in place.

The trucks on the cars could swivel freely and could rock up and down to some degree, making it possible for them to travel on wobbly track or places where one rail was higher than the other.

The practical locomotive had to match these characteristics and the most popular one was known as the Shay geared locomotive. It is the type that shows up on most photographs of northern Wisconsin logging railroads. such as the three mentioned above.

The Shay rode on two or three swivel trucks, allowing it to swivel as easily as the cars it towed, and it was flexible enough from side to side that it was able to roll on uneven track.

The kind of steam locomotive that we all grew up calling a choo choo would never do in this situation. It had a rigid wheelbase under its large driving wheels--from two per side up to four, with a small two wheel pony truck in front and maybe one under the cab. It was too rigid to navigate sharp curves, and its wheels were almost too large. The Shay's driving wheels were its only wheels and ground very slowly to provide more power,

For the service for which a Shay was intended, it was power rather than speed which was important--a Shay could not have sped anyway, on the kind of track it usually traveled.

To be as flexible on sharp curves and irregular track, the Shay rode on the same sort of trucks as the log cars, four wheel trucks that swiveled easily. Its appearance was odd, though, even ungainly, in order to give it the power and the flexibility. Its machinery was concentrated on one side, the engineer's side, the left side as one looks at the front. The fireman's side was bald and incomplete looking.

The boiler was set off center, over toward the fireman's side to make room for the driving machinery and to compensate for its heavy weight.

At the end of each axle in each truck there was a gear sticking out on the engineer's side, and all along that side of a Shay there was a long horizontal shaft at the level of the axles with their gears, and the shaft had matching gears that meshed with the gears on the axles--when it rotated the wheels turned.

Like the cylinder-piston-rod-crankshaft of an automobile, three cylinders turned the shaft. They looked unusual because the cylinders were tall and reached almost to the bottom of the engineer's window. One of the problems of the mainline rod engine is that it cannot bend or stretch. The shaft of the Shay was fitted with splines that stretched or retracted on curves. So all the motion started when steam entered the cylinders and ^{made the} rods go up and down and--lo! everything turned.

Having three cylinders instead of the mainline choochoo meant fifty percent more chuffing--a fascinating sound even when the engine seemed to be crawling. Like a choochoochool