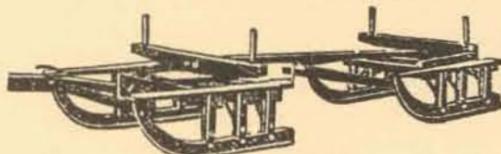


Business Members

This year we added a new category to our Members of Hanford Mills Museum - the business membership. We'd like to welcome the following companies:

Astoria Federal Savings
Delaware County Bankers Association
Delhi Motor Company Inc.
Lutz Feed Company
National Bank of Delaware County
Scott Machine Development Corp.
Southern Tier Communications Inc.
Wickham Sales & Services, Inc.
Wilber National Bank

Bob Sled



Bill's Bobs

This year interpreter Bill Brindle was busy recreating a little bit of history. According to early Hanford business records, workers were sawing and selling parts for bobsleds - the winter work-truck of the nineteenth century. This summer, Bill was our bobsled repairman. For his first job, he repaired the Wyble family bobsled. The Wybles have provided a team of horses and bobs each year for our ice harvest. Last February, a bolster broke while hauling ice to the museum's ice house.

Repairing this was an easy job for Bill, but the next bobsled was a bit more complicated. Bill reconstructed a set of bobs (there are usually front and back runners) that had been donated by Janet Benavides of Oneonta. This sled was in very poor condition and nothing could be reused except the hardware. Using the old rotted wood as a guide, Bill cut new parts for the bobs, much as the Hanfords would have done in the past. Museum staff even found trees with bent trunks or crooks so the sawmill could be used to saw runners. These are stronger than those cut to shape from straight wood because the grain of the tree follows with the curve.

Bill did a great job putting it all together. You will have to come to the museum's Ice Harvest, February 2, 1992, and take a look at Bill Brindle's handiwork.

MILLWORK is published by Hanford Mills Museum and distributed free to members.

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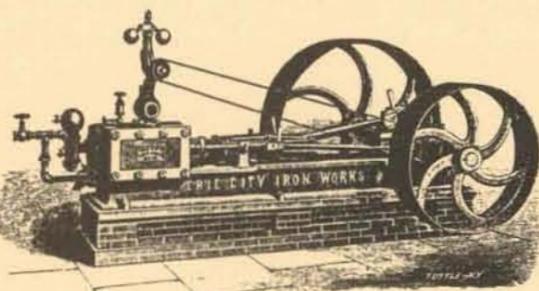
"Our 'Dan'"

When the Hanfords installed their largest steam engine in 1895 (see back article) they needed a man to run it. They hired Daniel B. Wightman from Portlandville, New York (about eight miles northeast of Oneonta). Dan was known as an expert carpenter and was said to have built his first building at age 16. He probably first met D.J. Hanford in 1883, when D.J. married one of his relatives.

Besides being a carpenter, Dan also had some engineering skills. He was first mentioned in the Hanford employee time books in October of 1895, the same month the steam boiler was installed. In 1896 Dan's job was described by the "Delaware Dairyman" newspaper: "Dan Wightman is the efficient engineer at Hanford Bros. mill. But it bothers his time some to explain the mysteries of the engine room to a delegation of young ladies and a party of brawny mechanics at the same time." Dan was to work for the Hanfords nearly ten years.

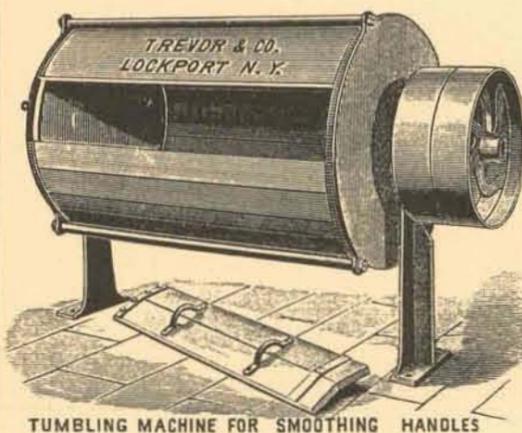
Newspapers and letters indicate that Dan was an active character. He traveled quite a bit. Mostly he went home to visit his family near Crumhorn Mountain, often as a chaperone for hoppers. Dan was also known as a good photographer, and another article describes him with a "slick looking suit of clothes on and a kodak attached to his left fin." He often appeared in the columns of the "Delaware Dairyman" as "Danny" or "Our 'Dan'." He was even interested in acting, and had a major part in at least one of East Meredith's plays, the 1902 production of "The Heroic Dutchman of '76." Dan's personality also comes through in a letter he wrote to "Friend Horace" - signing it "Yours in full Blossum."

Dan Wightman's work for the Hanfords came to an end on May 10, 1904. An unidentified newspaper clipping explained that he "...caught his hand in the planing machine. The first and second fingers plus the thumb were entirely taken off." Dan went back to his father's farm on Crumhorn Mountain to recover. He was better by August when Horace Hanford wrote to "Friend Dan" to offer him a position and a raise. By that time, Dan had picked up a number of jobs, and he wrote back he couldn't come until October. He never did. In 1909, Dan Wightman married Lillian Blencoe of Maryland, N.Y. Together, they ran his father's farm and raised six children. While Dan went into farming, his family was still involved in the lumbering business. The owners of Wightman Lumber Company in Portlandville, N.Y. today are related to "Our 'Dan'." [Next: Meet William Flower, box maker and much more.]



Broom Handles - They're Back!

If you visited the mill this summer, chances are you saw a broom handle being made. The Hanfords started their broom and mop handle business in 1900. Ninety-one years later, the museum revived the business and produced fifty broom handles for the Farmers' Museum in Cooperstown, NY. The museum uses a dowel making machine bought third-hand by the Hanfords in 1902 to replace their first broom handle lathe which they had trouble operating. The dowel machine was restored about two years ago and now it runs with good results. The museum staff also restored two of the other machines used in the handle business - the tumbler and the chucking machine.



TUMBLING MACHINE FOR SMOOTHING HANDLES

The tumbler was bought by the Hanfords to smooth wooden handles. It is a round wooden drum, about 6 feet long and 2 feet in diameter. The drum is partially filled with handles and is turned slowly by the water wheel in the basement of the mill. As the drum turns, the handles hit each other, and "sand" all the rough spots. It's a very noisy process. The other machine, called a chucking or bullnosing machine, has a series of heads that can be attached to a spinning shaft. These heads can be used to put tenons on dowels, or, in our case, to put the rounded end or "bullnose" on the top of a broom handle.

Next year, we hope to continue in the broom handle business, finding other museums interested in our product. You should also visit the museum next year to see our restoration of the mill's tub cover cutting room (there will be more about that work in our spring newsletter). You can also read about these machines in our new publication "Made By Machine," which is available from our gift shop.



In Memoriam

The museum has lost an avid supporter. Dr. Charles Jones died on August 1, 1991 at the age of 71. "Doc" Jones, as he was known, was a longtime trustee and President of the Board at Hanford Mills Museum. He helped support many projects at the museum, including the restoration of the horse barn. Today, Dr. Jones' legacy of giving continues. Friends were encouraged to make donations to a list of organizations, including the museum, instead of sending flowers. A large donation of tools, historic lumber, a sleigh and other artifacts were also donated in his name by his wife, Ruth. "Doc" Jones will not be forgotten.

As summer stretches into August, the rains decrease and the water level in the millpond drops low, sometimes very low. This has happened almost every year to some extent, though very dry years or droughts tend to go in cycles. 1991 was a dry year, but the worst in recent history was August, 1988, when the level of the pond dropped nearly two feet by the second week of the month. Not enough water was getting into the mill's forebay and the huge Fitz water wheel was silenced. Water power couldn't be used again for nearly three weeks.

Today, we run the mill with an electric motor or a gas engine when we can't use water, but those were not options for the Hanfords in the nineteenth century. For many mills, like the one in East Meredith, a dry season could idle or slow business for months. For many mill owners the solution was steam.

Steam engines were being built in America by 1776, but difficulties in transporting the heavy engines and boilers kept the number of steam powered mills at a minimum. High costs and the skills needed for installation were also other prohibitive factors. For out-of-the-way areas, like the Catskills, steam power came relatively late. Many waited until a local railroad came close enough to make transportation feasible.

When David Josiah Hanford bought his mill in 1860, water wasn't a problem. He cut lumber when water levels were high and ran his farm the rest of the year. Then D.J. began to expand. In the early 1870s, D.J. built a gristmill and added a planer, jigsaw and heading machine. With these machines in place, the mill was a year-round operation. However the mill's wooden water was inadequate. Part of this problem was solved by adding more efficient water power, namely, turbines. Water was the cheapest form of power, but what happened when you had more work to do than water power to do it with? By 1881, D.J. had the solution - a steam engine.

The first written record of a steam engine at the mill comes from the diary of D.J. Hanford's aunt, Elizabeth Hanford. On October 21, 1881, she wrote, "Charlie [her son] went to Oneonta got Josiah Steam Engine." It wasn't until December 5 that she wrote, "Charlie & Josiah running his Steam Engine for the first." She noted that they sawed wood the next day using the engine for power. None of the Hanford business records indicate what kind of engine was bought. D.J.'s grandson, Ralph, remembers two vertical steam engines at the mill. It is likely that one of

these was D.J.'s first. Whatever type it was, it was small, probably no more than 20 horse power. Charlie had to bring it by horse and wagon 15 miles from Oneonta, and historic photos show no sign of a smoke stack like the later, larger engine used. It sat on a small concrete platform in the basement of D.J.'s new tub cover machine addition.

The mill's best documented engine arrived in 1895, as the Hanfords continued to expand their mill. The first record appears

smoke stack today." The next day she wrote that they blew the engine whistle for the first time the night before.

Unlike the earlier engine, the Hanford brothers needed assistance in installing and running this larger, horizontal steam engine. The new engine even required inspections for insurance and safety purposes. Long time friend N.L. Green from Edmeston, NY, who had helped the Hanfords put in their turbines, came to do the installation work. The mill hired a full-time engineer, the first being Dan Wightman (see front article). All through the engine and boiler's working history, it was periodically inspected and certified by the Department of Labor and the Hartford Steam Boiler Insurance Company. Approved pressure was at 100 pounds originally, but was lowered to 86 in 1926. These inspections often required repairs such as caulking, boiler scale treatments, guards for the governor, and a major repair for leaks that required shutting down the engine completely in April 1922. The Hanfords ran entirely on water power until that repair was completed in June.

The mill was very lucky with its steam power. Serious accidents at the mill were rare, and none was known to be fatal. Other mills were not so lucky. In the same year Elizabeth Hanford wrote about D.J.'s first engine, she wrote on September 10, 1881, "Joe Greggs Steam Mill Blown to atoms. Boiler burst killed one man, injured other." Explosions were common because of the high pressures necessary to run engines. Eleven days after D.J. started his engine in 1881 he burst his "Steam Pump to their Engine" as Elizabeth called it. In this case, no one was hurt. D.J.'s engine was small and it was probably untended at the time. The worst accident at the mill occurred on July 6, 1910. It is recorded in the mill diary that William Van Alstine, engineer at the time, "lost part of middle finger of left hand - caut[sic] in engine." He was paid for the rest of the week he missed, but did not return to work until August 3.

The last known inspection of the steam engine and boiler was in 1928, two years after the Hanfords installed their new Fitz water wheel. By 1935, steam was no longer used. Safer gasoline engines and electric motors were available, and the boiler was removed. Today, none of the Hanford steam engines remain at the mill. Visitors can see a Nagle steam engine, similar to the Hanford's horizontal engine. It sits on the same platform the Hanfords built for their 1895 steam engine.



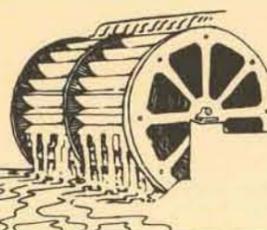
The four ton boiler arrives. Horace Hanford photographed it in front of the mill's lumber shed.

as a letter written by the Hanfords in July, 1895. In it, the Hanfords discussed the stone work that the engine would sit on, deciding that the main mount would be about seven feet long, while the shaft support didn't need to be over five feet. By the time this letter was written they either had already ordered the engine or they at least knew the size they wanted. Unfortunately, the make of the engine is unknown. A 1922 Department of Labor inspection gives us a clue by mentioning an Oneida Engine. We do know for sure that it was a horizontal engine instead of vertical. The engine, all two tons of it, arrived at Davenport Center (the closest railhead at the time) by the middle of August. About that same time, the boiler and 50 feet of stack were ordered from the Erie City Iron Works in Pennsylvania. By September, D.J.'s son, Horace, wrote to the Commissioner of Highways to make sure that the bridges between Davenport Center and East Meredith were strong enough to support a four ton boiler.

The mill's new steam engine was finally mentioned in the local paper on September 20, 1895, "Hanford Brothers are busy erecting an engine house for their new engine." Then on October 11 - "The Hanford Bros. last Saturday placed in position the large steam boiler to be used in their mills....Taken altogether it is without doubt the finest equipped mill in this county." D.J.'s aunt wrote, "Josiah Boys putting in a Steam engine at their Mills. Raised the

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