

## Staff Notes

This spring we will be losing our Programs Coordinator, John Staicer. John has worked at the mill for seven years, starting as an interpreter. He is completing his Masters in History Museum Studies from the Cooperstown Graduate Program. John is moving to Madison, IN, to take on the task of organizing and preparing to exhibit the machinery and history of a saddle tree factory there. Good luck to John - we will miss him. His last day is May 24.

Dawn Raudibaugh, former mill assistant and gift shop manager, has become Mill Operations Manager. She is now in charge of all mill operations. Stephanie Kovar has added gift shop manager to her administrative assistant job.

Nancy Baldwin, Ken Graig, Todd Pym and Ruth McVay are returning this summer as interpreters, although Ruth will often be on the road with our traveling exhibit, "In Wood and Stone." We have two new interpreters as well, Bill Brindle and Elizabeth Phillips. Why don't you come on down to see how they are doing? The mill also hired a maintenance person for the site, his name is Bob Hummel.



## Slide Show

Hanford Mills Museum has received funding from the New York State Council on the Arts to produce an orientation slide show for the museum. This will help introduce visitors to the site. We are working with photographer Drew Harty, who did the photographs for our exhibit. Hunter College's American Social History Project is helping with the script. This program will focus on the workers in the mill as well as the mill's relationship to the community. The slide show will be ready for viewing late 1991 or next season in 1992 in the Feed Mill, which already houses our exhibit "An Envious Reputation."



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## "A Sawyer Hard to Beat"

In the last MILLWORK you learned a little bit about George P. Hill (another 1860 news article, recently discovered in our files, tells more about another one of his unicycles and gives George's middle name as "Paradox"). This time, we'd like to introduce you to George Gunn, "a sawyer hard to beat."

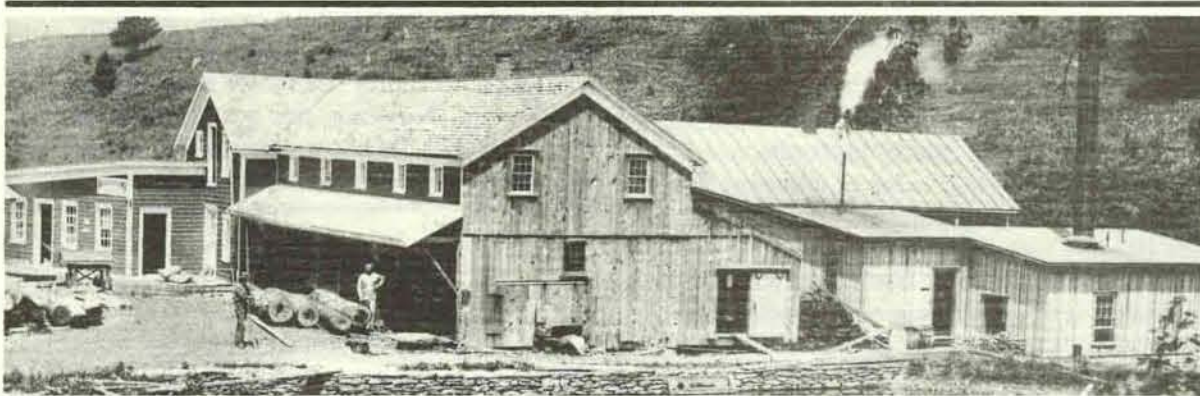
George Gunn worked for the Hanfords from 1890 to 1896 as the sawyer for their sawmill. Running the saw was a job requiring some extra skills because the sawyer had to know how to get the most and best out of each log. This was reflected in wages. In 1890, George was paid a little over 91 cents a day, while the other workers at the mill were getting 75 cents. Unfortunately, it wasn't a year round job. The "Delaware Dairyman" newspaper from October 1891 tells us that "High water brings George every time." George Gunn tended to work in the spring and fall when water levels were highest and water power for the mill was most available. Logs were more readily available at those times as well. Farmers who owned woodlots had more time to bring logs into the mill before spring planting started and after their harvest was over.

There was a lot of hard work involved in running a sawmill, but George Gunn and his friends did occasionally take time out for fun. A May 1895 news article gives us a

glimpse of how silly the mill employees could be: "The head sawyer at Hanford Bros.' mill had a very fine imported hat that cost a fortune in its day, and at the earnest request of his many friends he had it remodeled and trimmed in the latest Paris style. It is the very latest thing in hats."

Since George Gunn was an important part of the mill business, we know more about his work than the jobs of many of the other employees. However, we know very little about the rest of his life. He was the son of John and Lydia (Dibble) Gunn, and he had a brother named John. He lived in the town of Kortright, just east of East Meredith. A November 1895 newspaper wrote that George was the caller for a local dance. That is all we know about George's Gunn's personal life. Hopefully, as we continue our research, we will learn more.

We don't know when George was born, but we do know when he died. On March 20, 1897, Elizabeth Hanford wrote in her diary "George Gunn died this morning. A tree fell on him a day or two ago & nearly killed him." It was an ironic death for a man who cut trees for a living. George wasn't working for the Hanfords at the time. Was he out getting sap for maple sugar? Was he cutting firewood? We'll probably never know. [Next: Meet Dan Wightman, engineer.]



George Gunn stands on the right where logs could be rolled into the sawmill where, as the sawyer, he worked.

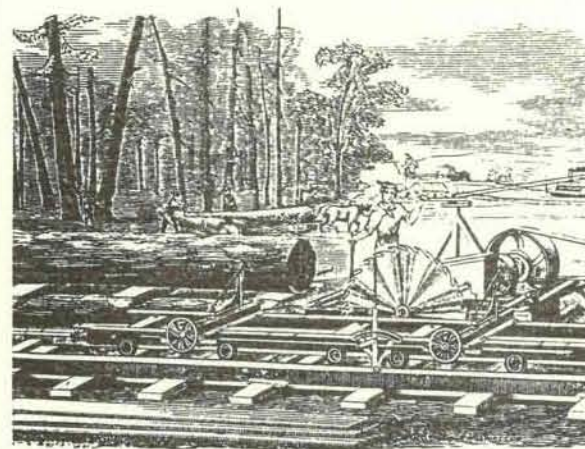
## Don't Miss the New Ones

Hanford Mills Museum has added five new special "workshop" and demonstration programs to this year's Calendar of Events. Here is a brief rundown: May 4 was "The Versatile Apple", exploring the importance of apples to farmers in the past. May 19 and June 15, Bernie Sheehan will demonstrate our metal lathe. June 22, Ken Williams is coming to help visitors explore "Woodlot Management". July 20 and August 31, Murray Benjamin comes to demonstrate the art of "Windsor Chair Making". And on August 3, visitors can explore a 1920s "Kitchen Garden", the research that went into it, and its uses. You will find more complete descriptions in your 1991/92 Calendar of Events. We hope you will enjoy these new programs.

Also, come down to see our two traveling exhibits. "In Wood and Stone", which deals with stone quarrying and logging in the Catskills, will be here July 1-14 and October 1-13. "Endangered Spaces", an exhibit dealing with Delaware County's historic landscapes, will be here September 1-30. This exhibit comes from the Delaware County Historical Association in Delhi, New York.

## Is This the End?

Don't let this be your last MILLWORK! May 1st was the start of our membership year, but we still haven't heard from all our past members. There still is time to renew your membership, just return the coupon we mailed you in April. If you have lost it or did not receive our mailing, please contact Hanford Mills Museum, P.O. Box 99, East Meredith, NY 13757, (607) 278-5744. Memberships run from May 1st to the next May 1st, and include free admission, 10% discount in our shop, MILLWORK, and special members' parties. JOIN NOW!





Today, Hanford Mills is powered by a steel Fitz overshot water wheel, but this is only the latest of many changes made to the mill's water power system. In the last 150 years, the mill has seen as many as three different types of water wheels. Through this time the whole water system has been reworked, overhauled, changed and added to in an evolution that gives us what we see today.

Hanford Mills sits on lot 54 of the 1770 Goldsborough Patent. In 1803, before the mill was built, the area was surveyed and each lot described. The surveyor wrote about the unimproved land on which the mill now stands and indicated that it was suited for "A midling good Farm - watered by the Kortright Creek & Two other Streams - on which, Perhaps a Mill Seat - Beech, Birch, Maple & Hemlock Timber." While lot 54 was described as having average farm land, it had two of the major requirements for a sawmill - water to run a mill and trees to saw.

No one is sure when the sawmill was actually built, but by 1846 it and the millpond were in existence. A deed for a neighboring piece of property uses it as a reference point. Jonathan Briggs Parris owned the mill at the time. The markings on boards and dovetail notches in the building's framing indicate that the mill used a vertical saw fixed in a sash that slid up and down in a frame to cut logs. There is very little evidence about the water wheel that powered the mill. The majority of sawmills at the time were driven by flutter wheels. A flutter wheel is an undershot water wheel which is turned by the force of the water directed underneath it. Most likely, it was constructed completely of wood with a large wooden axle and long blades to catch the water. It would have been built on site by the mill owner or a millwright hired to build the mill. An arm, known as a pitman, would have been attached from the wheel to the sawing apparatus. The speed of the water wheel was the speed at which the saw cut. There may also have been a tub wheel in addition to the flutter wheel. Many sawmills used these horizontal water wheels encased in a wooden tub to move the log carriage back after the cut was complete.

The next type of water wheel known to have been in the mill was a turbine. This is a much more efficient version of the tub wheel, built of metal, with two sets of curved vanes that allow it to be as much as 93% efficient. Our records show that there was at least one turbine in the mill by 1884, though it could have been installed earlier. The first American turbine was patented in 1838, so turbines were available to the early mill owners. A more likely possibility is that D.J. Hanford installed a turbine when he added the gristmill in 1869. Since our historical records are

incomplete, we may never be sure exactly when turbines were first added.

Turbines had a number of advantages over other water wheels. They took up less space, could be run under water, were usually more efficient, came from the factory ready to install, and winter ice was less of a problem than with wooden water wheels. These were only a few of the advantages. By the turn of the century, the mill was powered by at least two, possibly three, turbines. It has been said that one was used for the gristmill, one for the wood-working shop and another for the electric generation plant installed in 1898. The sawmill, changed to a circular saw some time before 1883, was run on a combination of the water power and a steam engine.

In 1917, Horace Hanford wrote to the Leffel Co. looking for used turbines to replace his older ones. Leffel had no used wheels, but sent prices for new ones instead. In 1925, the Hanfords decided to buy a new steel overshot water wheel from the Fitz Water Wheel Co. This wheel, still in the mill today, was installed in 1926. The Hanfords probably discovered one of the major problems with turbines by this time. A turbine will run very efficiently in only a limited range of water levels. When levels are low, an overshot wheel will run better than a turbine, since a turbine uses the force of water to turn while the Fitz overshot uses the weight of water as well as the flow. An overshot water wheel can be used into the summer months when water levels typically decrease. Horace Hanford removed his turbines and, according to oral histories, they eventually went for scrap metal in World War II. A remaining turbine, on display in the basement of the sawmill, may have belonged to the Hanfords.

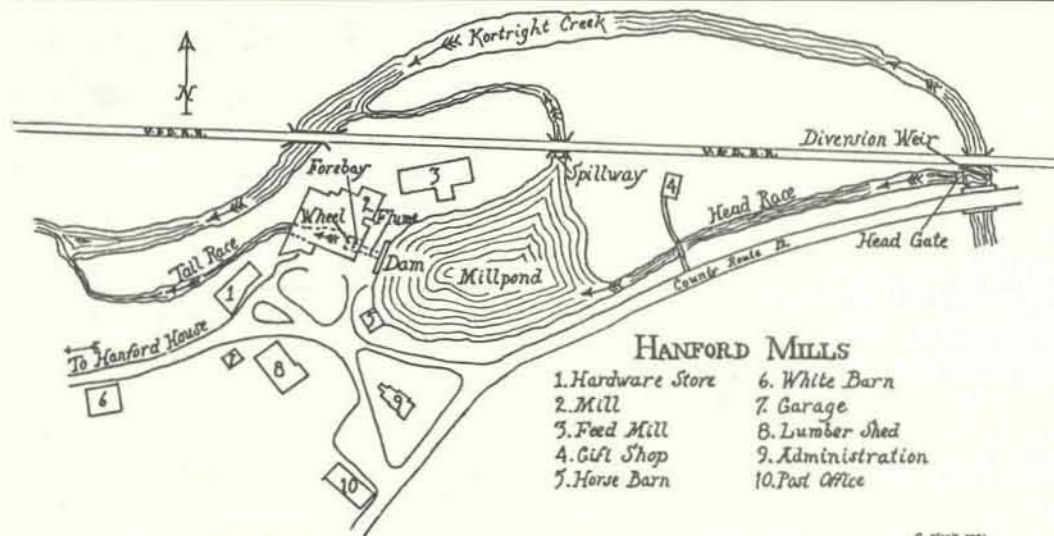
Not long after the Fitz water wheel was installed, the Hanfords, and the Pizzas after them, began to rely on other forms of power, such as electric motors and modern gasoline engines, to drive their mill. Former employees, Dick Shaw and Earl Briggs, remembered using the water wheel in the 1940s. By that time, the pond had been silting in and there was less water available. The wheel could only be run for short

periods before the water level was too low.

After the mill opened as a museum, the pond was dredged, the wheel was restored, and other portions of the system were repaired. The mill's water power system is now much the same as it looked in the 1920s. It has all the elements of most water powered mills, though no two systems are exactly the same. The pond at Hanford Mills was built to one side of KORTRIGHT CREEK. The water from the creek is let into the pond through a wooden structure known as a HEAD GATE. A low walled DIVERSION WEIR was constructed across the creek at this point. This weir does not stop the water completely, it only diverts a portion of the water through the head gate.

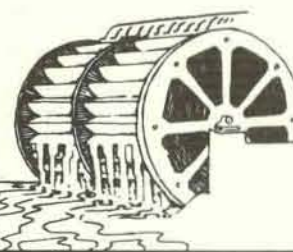
From the gate, the water flows through a ditch, or HEAD RACE, into the MILL-POND, which stores water for future use. In this way, the pond acts as a battery. To regulate the pond level, the pond has a waste weir or SPILLWAY. This allows excess water to run out and reenter the creek, helping to avoid flooding. From the pond, the water is directed through a flume in the mill DAM five feet below ground to a metal box in the mill. This box, called a FOREBAY, has gates, controlled from two locations in the sawmill, that regulate the flow of water over the wheel. Once the water has gone over the WATER WHEEL, it flows underneath the building and out through the TAIL RACE and back into Kortright Creek, about 500 feet downstream from where the water left the creek at the head gate. The drop in elevation from dam wall to the end of the tail race is about 15 feet, allowing the wheel about 12 feet of "head".

By 1846, much of the mill's water system detailed above was in place. Through the next 150 years, various parts of the system were repaired and replaced, new types of water wheels were installed, and the mill evolved into what you see today. Even though much has changed, all the elements of the 1846 water system can still be seen today, though they have been altered by generations of mill owners.



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