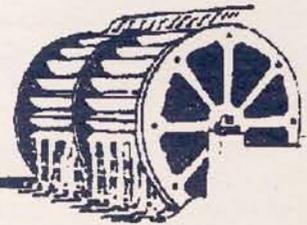


MILLWORK



Summer, 1999

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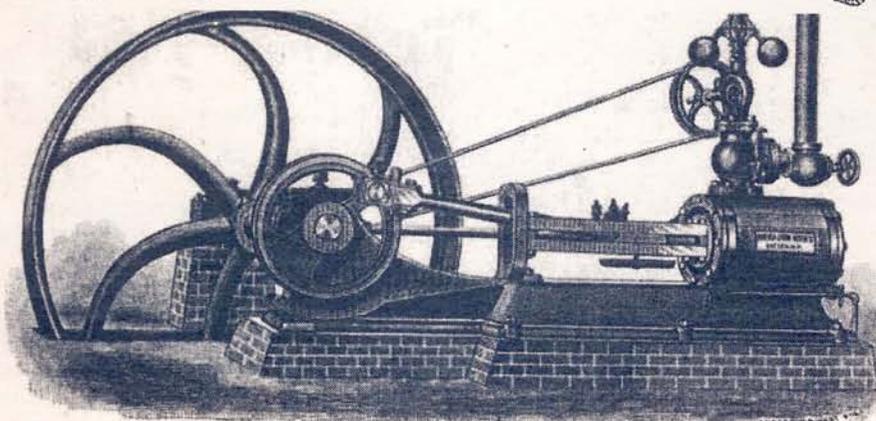
What's News?

Steam at Hanford Mills Museum - Beginning in January 2000, the museum staff will begin the task of reinstalling steam power in the mill. The Hanford Brothers operated their mill by steam power for more than 40 years, and now thanks to the help of the O'Connor Foundation, the museum will recreate that power. The mill staff will journey to the Benson Mountain Company in Rhode Island to help in the construction of the boiler. Peter Bouley, president of the company, will also be training these staff members in steam operation, after which they will be tested for their steam license. We are now searching for an Oneida, 30-40hp, horizontal, stationary engine to use in the mill with the steam power.

This project has many components. We will need to lay brickwork around the boiler. The staff will remove the roof of the boiler room, and using a crane, the boiler will be set in and the roof will be reinstalled. We will be restoring the smoke stack. Our boiler designer will plan for using multiple fuels such as wood, saw dust or fuel oil. We will also examine and set up all new safety plans for the mill and staff.

This restoration of steam power will enhance interpretation and tours of the mill. The water wheel will power the mill in the mornings and the steam engine will provide power in the afternoons. Visitors will see a variety of power sources when they visit Hanford Mills Museum. Once we install the steam, the mill will be warm in the winter. By the year 2001, we may be open year round.

This coming winter, when the men from the mill go to Rhode Island, they will be staying in a hotel and eating in restaurants. To help with their travel and room and board expenses, we are inviting members to make contributions to the steam project. Anyone donating \$100 or more will receive a little ceramic teapot with infuser. We call them "Steampots" and they come in blue or green. There are just 36 of these charming little teapots. We hope they will help us generate the \$3,600 needed to get our team to the work site in Rhode Island and make their stay comfortable and enjoyable. We will appreciate your help in this endeavor.



Donations

The following items were donated over the years for use in the John Hanford Farmhouse restoration. We hope to include a list of monetary donors in an upcoming *Millwork*. The Museum is still looking for other items, which were listed in a previous newsletter. Please let us know if you have something you think might be useful.

Betty Bergleitner - Helped purchase a Royal Bride Wood Cookstove

Keith Bott - Sofa

Elizabeth Botting - Hanford Family Photos

Erna Chichester - Roller Blind

Judith Coburn - Kitchen Faucets

Bruce Cole - Amberola Cylinder Player

John L. Davidson - Shotgun

Alden & Sandra (Hanford) Davis -

Hanford Prints & Photographs

Jane des Grange - 1920s Household Items & Clothing

Marvin Glass - 30 Gallon Crock

Jay Hager - Storm Windows

Ken Kellerhouse - Butcher's Cuffs

Grace Kent - Horace Hanford Furniture, Piano, Quilts, Trunk, Clothing & Baby Carriage

Elma Mitchell - Hanford Family Photos

Mt. Vision Baptist Church - Pneumatic Vacuum Cleaner Parts

Gordon Roberts - Wall Telephone

Louise H. Robinson - Quilt

Dorothy Ryndes - Davenport Plate

Donald Scheetz - Old Switch Plates

Ron & Irene Zablocki - Kitchen Sink

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A Dedication

by Clifford Moquist

Editor's Note: On July 4, 1999, Hanford Mills Museum dedicated a new flag pole to founder, Ken Kelso. The following are excerpts from the dedicating speech of donor Clifford Moquist.

It's nice to be back. The maple and beech trees are as beautiful as ever. Even though sixty years has passed since we farmed here, the hills are as high as ever. There seems to be fewer cows in the pastures, but that is understandable. Having milked cows, I know what demanding work it is. ... Many of you may wonder why a person from North Dakota would come here to put a flag pole up at this mill museum. Here are my reasons.

I was 15 years old when our family moved up here from New York City. It just happened our land joined Kelso's at the top of the hill. Over the next few years, Ken and I became friends and his mother Jessie fed me many meals. I slept at their house many nights after my father passed away and we left the farm.

Following his purchase of the abandoned railroad bed and Hanford Mills, I had the opportunity of visiting with Ken. Of course, he gave me a tour of the mill and explained its operation. His vision was to restore the Mill so school children could come by the bus load and hear the history of this place. They could learn what it had meant to the area, giving employment to people, making not only things that would be used locally but in distant places. This was his dream. ... On the same day I visited Ken's museum, we drove down the railroad right-of-way, which follows the creek bed, to Davenport Center. His idea was to make this area into camp sites. ...

Ken Kelso always had an

interest in school children. At one time he flew over the Rockies taking pictures, with the idea he would have lyceums at schools for the students. To the best of my knowledge he did some of this, before he became too busy farming.

Yes, he had a vision and what

is happening here is more than he envisioned. It certainly is a credit to the community.

During the Depression years of the thirties, the Christian Endeavor Society of the local church played an important part in the lives of about 20 or 25 of us. Reverend Philip Cooley and his wife were leaders and they did a terrific job. ... Every Sunday evening we had a meeting. A choir practiced one night a week. Every Sunday morning we marched into the church singing "The Church is One Foundation," with Mrs. Carrigin playing the organ and Gordon Adair pumping the bellows while she played.

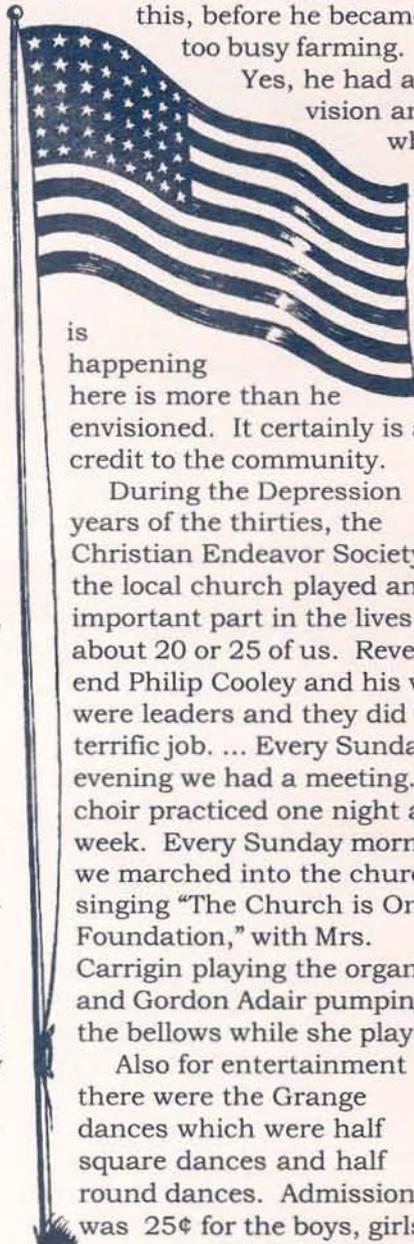
Also for entertainment there were the Grange dances which were half square dances and half round dances. Admission was 25¢ for the boys, girls were free, a bottle of pop was 5¢ and a hotdog the same price. Dances were also held above Fred Adair's store. This is where Jean Kelso and Elma Mitchell taught me to dance. Freddie Sheehan, a local fiddler played and he was really good. Not only the young people came, but I can remember what good dancers

Alyce Roberts' folks were, Mr. and Mrs. Hetherington.

We had so many good neighbors and townspeople that helped us from time to time. Lyle and Roland Henderson, Jean's uncle and dad ran one of the stores and if we needed to charge something they always helped. The Fred Adair store also helped whenever needed. Their son, Gordon, and I worked together and shared a room for several months one summer on Long Island. I had the privilege of working for our farm neighbors, the Kelsos, Blakelys, Carrigins, and MacClintocks, in haying or filling the silos. Last, but not least, is Gordon Roberts' family, Lorraine and Earl Roberts and their daughter, Peggy. Earl was always able to help with a sick cow. One time when my dad had a little financial trouble, he helped us buy six cows, which made a big difference to us. Lorraine was a good cook and made the best tuna salad. Since the Roberts lived next to us on the same road it was easy to pick Peggy up to go to the Christian Endeavor meetings, dances and other activities. What a privilege for me as I look back to those days.

When Gordon, your board president, asked me to erect this flag pole I could only think what a wonderful idea for me to do something for Ken Kelso, the community and for my parents who are resting in your cemetery. How proud they would be to think that one of their children was able to do this. ...

The Rockies are very majestic but for beauty I tell people, go east from Niagara Falls through the Finger Lakes area, the Catskills, Adirondacks and the Berkshires in Massachusetts. If we could only put our Valley between your hills, we would be happy.



Hanford Mills Collections

by Bruce MacLeish

A museum is a unique institution because it collects and uses objects. Hanford Mills Museum is remarkable in the range of objects it preserves, from delicate paper items to large mill machinery. Museums try to preserve their collections forever, trying to stem the tide of time and combating the kinds of environments that would be acceptable for most needs. Museums compile and keep information that give the objects meaning: not just what the object is, but who made it and when, how it was used and by whom. Somehow, when an object from someone's barn, basement or attic reaches a museum, it seems to acquire a halo that suddenly means that it must be treated with the greatest care, and all that is known about it must be written down at once.

All this and more have been going on behind the scenes at Hanford Mills. Each year, the objects are cared for better, and their documentation is more complete and more accessible. More of the collection is presented to the public in new and expanding programs. You might not believe what a small staff can accomplish, but the results are impressive.

At the Hanford House - an artifact in its own right - the restoration of the building is nearly complete. Visitors will see a clearer picture of the Hanfords' life. The cozy home looking out on the village does a great deal to complete the picture of life in the community when the mill was operating. It extends the personal element of the museum experi-

ence that begins with the staff running the mill itself. Family life is thus added to the industrial, business and community life illustrated in the other museum areas.

Out of sight of the visitors, much work in recent years has contributed to organization of the objects and their individual information. Curator Caroline de Marrais has worked to ensure that storage for all items will contribute to their long-term survival. However, only so much can be done in basements and other areas that were never meant to be museum-quality storerooms. They cannot eliminate all the enemies of wood and iron, especially moisture, from old, drafty buildings. Add to this situation the fact that the collections are scattered throughout several buildings in the museum complex, and you can see that the museum's greatest asset is in need of a little help.

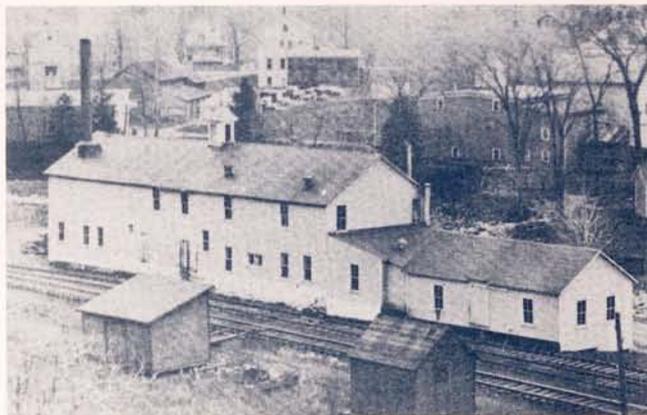
Imagine for a moment one large building (with an exterior built to look like a creamery that stood behind the mill). This building could hold all the tools,

on, but visitors could walk through this "visible storage" center. In a carefully planned modern building, energy could be used efficiently to maintain a reasonable environment for the collection, while providing a work space for the staff. Without being an expensive, formal exhibit, the "visible storage" could be a new and important public feature that also goes far in preserving the collection.

The staff is constantly researching and adding new information to the files on the artifacts, and that, too, is important in a variety of ways. Much of that is due to the creativity and energy of the staff. They find ways to publish, exhibit and personally convey to visitors the important information relating to the site, the collections and their history. Museum Educator Vesna Herbowy and the museum staff have designed new programs to use this research.

A wonderful new tool in the process is PastPerfect, a computer program that helps the staff to organize, store, sort and retrieve information about the collections in ways that have not been possible before. Staff member Sara Sikes has begun the essential project of entering all the catalog information about the collections. This work will continue until they have entered all existing records, and then the automated records will be kept current with new research or new objects.

Finally, the mill itself, the heart of the museum, is an evolving and complex artifact. Mill Foreman Robert Grassi and interpreters



The Museum hopes to recreate the exterior of this creamery for our planned modern collections storage building.

machinery and vehicles that are currently in storage across the site. Not only would everything now be easier for staff to work

Con't. on Page 4

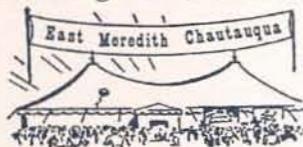
Up-coming Events at Hanford Mills Museum

by Vesna Herbowy

As the summer season starts, Hanford Mills Museum would like to invite you to visit the mill and join us for our up-coming special events and workshops. This year you will notice the return of many favorite programs and the introduction of some new ones. On July 25th, the Little Delaware Chamber Players will present a concert of period music in the mill. Bring a picnic lunch and enjoy the musical entertainment.

The museum will be holding a Heritage Craft Show on July 31-August 1. Come visit the site, enjoy a mill tour and see heritage craftspeople at work. Various historic crafts such as tinsmithing, blacksmithing, woodworking and weaving will be shown throughout the historic site. The craftspeople will not only be demonstrating their trades, but selling their products as well. Enjoy the musical entertainment by Fiddlesticks while you watch the craftspeople at work on Saturday.

A new event to Hanford Mills Museum, but not a new idea, is the East Meredith Chautauqua. A Chautauqua is a traditional learning fair where visitors can take part in education, culture and entertainment. Visitors will be encouraged to learn a new



Collections - con't. from Page 3 such as Eric Brindle, are constantly refining the machines, ensuring that each is correct for the purpose and period. Evidence in the building structure helps show where each tool once stood and how power was transmitted to it. As this work continues, considering alternative power sources is appropriate,

skill and try their hand at projects such as buttermaking, box building or blacksmithing. Another event that will occur during the Chautauqua is a theatrical performance by the Orpheus Theater. This year, the Antique Engine Show will be incorporated into the East Meredith Chautauqua. A select number of people will be displaying their antique engines on the historic site.

The museum also offers a number of educational workshops. This summer the Blacksmithing Workshops are very popular. Participants learn the basics of blacksmithing including how to set up a shop, start fires and perform simple metal working techniques. The museum blacksmith, Eric Brindle, teaches the workshop in the museum's own forge. The last Blacksmithing Workshop will be held on August 7th. The cost of the workshop includes materials and lunch.

Museum Curator Caroline de Marrais will conduct a Fall Edible and Medicinal Plant Walk on September 4th. Participants will learn what our ancestors used when they were sick or hungry. Local plants will be identified and discussed. You will discover how to appreciate

since the reliability of water power can vary with the weather. Restoration of steam power would serve a variety of purposes, from adding an important educational element about power sources to the museum, to enhancing the use of the entire mill complex with power that could be engaged anytime. A firm that repairs and builds

plants in your own backyard.

The Lost Villages Workshop that was scheduled for June 15-17th has been rescheduled for this September. The program will be reformatted into a one-day workshop. Participants will explore the history of rural communities that once dotted the Delaware County landscape. Mary Sive, author of *Lost Villages: Historic Driving Tours in the Catskills*, will present a slide lecture in the morning. In the afternoon, participants will enjoy a bus tour of selected areas in Delaware County, narrated by Mary Sive. The cost of the workshop will also include a copy of Sive's book, *Lost Villages: Historic Driving Tours in the Catskills* and lunch.

Elderhostel, in conjunction with the State University of New York at Oneonta, will be held this fall. Courses on Historic Milling, Edible & Medicinal Plants and Family Heirlooms will be held at the museum during the week of September 12-17. If you are interested in attending Elderhostel you should call the State University of New York at Oneonta.

To find out more about the museum's events or to register for a workshop, contact the museum at 1-800-295-4992. 

historic boilers has been found. Director, Jane McCone, is writing grants to fund an exact reproduction of the mill's steam powered system. Adding a new source of life to the mill can only help build the appeal of the museum to the visitors, and undoubtedly it would further spark the museum programs that are so successful. 

Hanford Mills Workers - "Scouting Around"

by Caroline de Marrais

In this issue of *Millwork*, the Workers article focuses on those men who were just starting out in life. They were young and trying to figure out what they wanted to do with their lives. "Scouting around, looking to see what to do next," one man said. For many workers, Hanford Mills was their first job. For some, returning from World War II, it was a chance to catch their breath before they chose a career and settled back into normal life. Here in their own words, East Meredith workers who worked here from the 1920s to the 1940s, tell what it was like to work at Hanford Mills.

In the early years of this century, with few child labor laws, a number of East Meredith children were introduced to mill work at a young age. The Hanfords, and the later owners the Pizzas, realized that the mill was a dangerous place for children, so they did not employ them full time. They did, however, find small odd jobs for interested kids. Larry MacClintock, a descendant of a number of East Meredith's first families, told us about his childhood millwork:

I used to fish a lot when I was a kid. And it's more than once that I'd be out there fishing and, because Joe Pizza knew I was always around that mill, I was interested in it, I liked mechanical things, that Joe would call me in if he was there working. ... Instead of going downstairs to switch the belts from the planer or especially from the back part like from the band saw or the table saw with the lathe, ... he'd call me in and he'd say, "Hey, when I holler, switch that over onto the table saw." Well I knew what to do. I was familiar with that place. Probably by the time I went in the navy, ... I

could have gone down and started that mill up. I mean I knew how to open the gates to let the water through. I knew about where they wanted to set it to do different jobs. I knew when they were going to really saw logs, you

Larry MacClintock as a child.



wanted a head of water and you wanted it wide open, ... But if you were just going to do some hand sawing or some light table saw in the back part, you open the gate up only to get that wheel going, you didn't have any lug on your power - you just needed something consistent. These kind of things I'd do. I was there, I did them. ... Well, I didn't realize, then I was a kid, you know, I was tail sawing is what I was really doing. "Grab this board here so it don't get away from me," [Joe would say] or something like that. He'd have a long board or he'd be running it through the joiner, the planer. "Hey, come on here, I got a dozen boards to run through this with." Maybe one of the men would be there, just a kid, hey a kid could grab one end of a board as good as anybody, you know. And I did those things. I went down to fish but I was having a ball because I liked that stuff.

Other boys were asked to help, as Gene Kludas remembered:

... You could go down to

the pile, oh, what did they call it - slabs, when they run the logs through the mill and they're taking off bark, you could go down and pile that stuff or ... you could sort and square away bags 'cause burlap bags then, the farmer would return them. I guess they paid a deposit on them and when you brought them back they had to be shaken out and then piled in a halfway decent square pile. Yeah, they'd find some odd jobs 'cause there was always something to do around the mill like that. One time I worked the slabs off the side of logs and the other two times I think I did sort bags and pile bags but that's about all. I just didn't have enough hours left in the day to do anything like that. But I remember some of the boys did.

Both these boys went on to find jobs in others areas - Gene Kludas worked on a farm, while Larry MacClintock went into the Navy and eventually became a contractor and teacher. The mill made a big impression on another child worker and perhaps it helped him choose his career path. Horace Hanford's son, Ralph, born in 1902, commented when asked why he decided to be an engineer:

I was brought up to handle wrenches and stuff. Around the mill I used to help my father, and later did it myself, putting together farm machinery that came unassembled, like mowing machines, circular saws, all sorts of farm implements. So I guess I got a kick out of [it] when I could assemble those without my father watching over me. So I got to be a kind of mechanic. But I was always familiar with the electric light system there, so I guess I just leaned that way.

Con't. on Page 6

Workers - con't. from Page 5

Ralph Hanford went on to work at the mill as a summer job in his high school years and later in his first years at Rensselaer Polytechnic Institute (RPI) in Troy, New York.

I used to work in the mill in the summer, making those milk boxes. ... Joe Sprague was next to me and Bill Flower was over in the corner. He was an older man. ... See we made them for Sheffield ... I was very proud of the fact that I could turn out, make more of those boxes in a day, than some of the regular old timers.

As mentioned above, working in the mill was not always safe though as Ralph Hanford once said, "... comparatively few people were hurt in the mill." Still, as a teen, Ralph witnessed what must have been a spectacular accident:

The saw mill for sawing logs consisted of a large circular saw which was large enough to saw most of the logs. Once in a great while, you would get a very large diameter log and the lower saw was not big enough, so there was another smaller saw which hung over the top of the lower circular saw. It could be started up when you needed to saw a larger log. Well, one time they were sawing a large log and it turned out there was a railroad spike in the log, and when this little upper saw ... hit the spike it broke the A-frame which supported it and the whole thing came crashing down

on the lower saw and it was quite a mess. No one was hurt, but saw teeth were flying all over the place, but fortunately, no one was hurt.

A number of workers also started at the mill after World War II, when the Pizzas owned the business. They were looking for something to do once they got out of the service. They needed a way to blow off some steam and get used to civilian life. Eric Meyerhoff, who was born in 1921, was one such worker. His story gives a good idea of what his work was like:

Pizza bought the place there when I was in the service and I came out [and [I] had to have something to do. Scouting around, looking to see what to do next, you know. Had a good old time down there. ... [I worked there] about nine months. I didn't work there too long. ... [I did] a little of everything. Sawing, bagging feed, trucking. Anything to keep me into mischief. I think I drove them crazy down there. ... we was in [our] 20s, was Hell raisers you know. But Joe [Pizza] was like a ... father to me. He was, I don't know, he was just a different sort of a guy, you know. ... We'd get in some of the darndest messes down there. Just like kids. Little bit different than what the kids do today. It wasn't drugs we had, always pulled stunts or tricks somewheres you know. It was a great life. ... I remember one time when we was down to Pizzas, Emory Haynes [and I]. ... Jim Rowe was working down there. We went and crossed the wires on his car. Little things like that. And he was just stupid enough. No ... He was smart enough to use that. So he was late for a whole week. And Frank [Pizza], or Joe, Joe caught us the first time because Jim told him that Emory and I switched the wires on his car. Well then Frank called us in the office and oh God, he read us the riot act. ... For a

whole week, he played that little trick, didn't have to come to work, always an hour late for work. ... [Another time,] Emory and I went after a load of feed once, up to Schenevus [about 20 miles north]. He had one truck and I had the other. Took us all day. We never got back to the mill till pretty near seven o'clock that night. We stopped in a bar and had a few drinks and was visiting there in the bar, and pretty soon it got almost dark, when we got home, Joe was walking back and forth, wondering where in the Hell we were at. ... We took the scenic route. One of the nice things was one morning, Emory had one truck and I had the other one, we had a lot of bag feed. That bulk feed wasn't in yet. And we took a load of feed over to Maud Smith's. ... And roads is rough. Emory was ahead of me. He hit a chuck hole in the road, and bang the feed jumped up in the air, and he drove right out from under it and I had to go and pick up the feed. He didn't even know he'd lost a load of feed. I wasn't loaded. I think we drove Joe crazy, I think if we hadn't of quit, I think he'd have fired us. Emory and I weren't his best help, I don't think. ... [I had a good time.] Emory and I kind of stuck together, and we was always pulling tricks on somebody. Always getting somebody in trouble.

In the end, for most young men, the mill was not their final career. It did provide them with experience and a place to start. For some young workers, it helped them decide what they wanted to do with their lives. For others, it was a place to take a breather in life, to be a kid again, before they had to go on with the business of being an adult. Hanford Mills could find work for all ages. It was a place to work and play, and maybe, find their place in the world.

Ralph's cousin, Merritt Barnes, also spent a lot of time at the mill when he was a child. He is at the base of the mill's smoke stack in this photograph.



A Power-“Full” History

by Caroline de Marrais

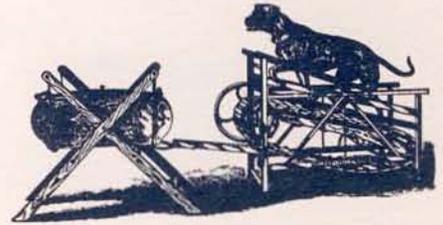
What powered Hanford Mills? That's easily answered. A water wheel powered the mill. Well, yes, that is right, but there is more to the story. Throughout the mill's history, there has been more to power sources than just water. Hanford Mills Museum has a power-“full” history - a history filled with wheels and engines, DCs and PSIs.

When Hanford Mills was built in 1846, the country was firmly committed to the Industrial Age, yet the first power (that of muscle power) was still the most widely used. How else could Jonathan Parris build the mill and its pond, especially when it was so far away from industrial centers? While many posts in the original sawmill were cut on a nearby up-and-down sawmill, powered by water, the longer beams were hewn by hand - muscle power. The beams and posts were fit together by hand and the building sheathed and roofed by hand. The pond was dug by hand, probably with the help of horses pulling scrappers. All of this was muscle power, and in the midst of the Industrial Age, it built the mill you see today.

Even as the finished mill began its work using water power, a great deal of animal muscle power was still in use. Logs were brought to the mill and lumber was delivered elsewhere. In the first sixty or more years of the mill's life oxen and horses did that work.

D. J. Hanford often purchased the rights to lumber on properties. While in the woods, his men cut trees by hand. They sawed the logs that were not going to make good lumber into firewood. Rather than use precious manpower cutting wood by hand, D.J. Hanford had his men use a dragsaw powered by a horse. This ingenious power source used a horse walking on a treadmill made of wood. As the horse walked, his “horse” power was translated into circular motion that turned a belt, causing the saw to move. Fewer men were needed to work in the woods. This same technology was probably used in the mill-yard to run a buzz saw to cut slab wood and on D.J.'s farm. We know his Uncle Levi Hanford used this technology on his own farm.

Using a smaller treadmill,



A dog on a treadmill churning butter.

local farmers trained dogs to help churn butter. Elizabeth Hanford recorded the following in her diary:

We lost our Old Dog Rover, a Pet for us all & our churner. Sick three week.

July 10, 1886

[Fred Hagar] & Charlie went to Hope Turners. Got a Dog to Churn.

July 15, 1886

Levi took the Dog back to Turner. Did not like to Churn.

July 17, 1886

Levi & Brother Will went & Bought a Dog of Mr. Boles.

July 22, 1886

Muscle power was all well and good, but it had its drawbacks, including the one in the quote - what happens when your muscle power can't or won't provide power? You turn to other power sources.

Of course, the main power source for the mill was water. A simple wooden water wheel (later they used more intricate water turbines) was the sole source of power for the first thirty or more years of the mill's history. A water turbine is a small, but powerful, water wheel that runs on its side (horizontally) in an enclosed case. Even when the Hanfords turned to other, more consistent forms of power, they always kept a water wheel for backup. When their turbines were old and needed replacing, they purchased a modern, overshot metal water wheel.

Con't. on Page 8



The horse on the treadmill provides power to saw the logs into firewood at one of D.J. Hanford's logging operations

Power - con't. from Page 7



This turbine was abandoned by the Hanfords behind their mill. It was probably too worn out to use.

As D.J. Hanford developed the use of water power in his mill, he began to also use it on his farm. Piping water from the mill's turbines, D.J. was able use the water a second time to power another turbine near his house. This second water wheel was used to power his butter churn and butter working machine. You can still see evidence of shafting in the back wood room of the John Hanford Farmhouse. The pit for the turbine still exists and was later used by D.J.'s son, John, as the hole for his out-house.

Although water power might

be considered a cheap source of power (not exactly true, as there are costs involved in the purchase and maintenance of the wheel, pond and machinery), it was not always reliable. As D.J. Hanford added new machinery and began to operate his mill throughout the year, he needed something more reliable and powerful. He turned to steam power. D.J. started small, with a 15 or 20-horsepower vertical engine that he set up in the basement of his mill.

**Charlie went to Oneonta
got Josiah Steam Engine
October 21, 1881**

Elizabeth Hanford Diary

D.J. had his cousin, Charlie, help him, and together they learned how to run the engine. Sometimes they made mistakes:

**Charlie &
Josiah. Burst
their Steam
Pump to their
Engine.**

December 16, 1881

Elizabeth Hanford Diary

Despite steam's inauspicious beginnings at the mill, it was there to stay for quite some time. D.J. went on to add a second small vertical engine, then in 1895 he put in a large horizontal

engine with a boiler that could provide 100 pounds pressure (PSI). Since their first mishap, the mill never had another serious steam accident. The Hanfords used steam power in the mill from 1881 to about the 1930s. In the later years of the last steam engine, the boiler deteriorated. The Hanfords could only safely get the pressure up to 87 pounds. However, another form of power was on the horizon that would help run the mill.

In the early 1900s, Horace Hanford (D.J.'s son) was using a new power source for transpor-



This may be the truck Horace Hanford wrote about, see quote below.

tation - the internal combustion engine. He purchased an automobile in the early 1910s, and by 1918 considered a truck a good investment for the mill business:

You ought to see our Ford truck; we think it is just about the best thing that ever happened - during the month of October we used it just 55½ hours and made a profit of \$22.00 over cost of operation figuring on R.R. prices for hauling from Oneonta - it is going to be a great thing we are sure.

November 13 1918

Horace Hanford

Horace also began the sale of single cylinder gasoline engines to local farmers. Engines such as these were used to power cream separators, butter churns, feed choppers, hay bailers, buzz saws, milking machines, washing machines

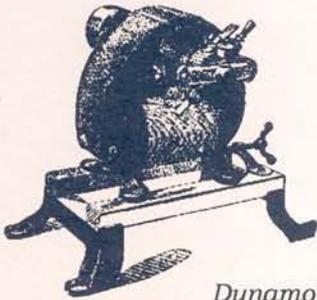


The boiler for the mill's steam engine arrives in October of 1895.

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Power - con't. from Page 8
and even home electric lighting plants. Horace's brother, John Hanford, bought his first gasoline engine in 1914, and then upgraded to a Hercules gasoline engine in 1921. John primarily used his engine to run a milking machine, but probably used it to power other machinery as well. Eventually, as the steam engine and water wheel wore out, the more convenient and easy to operate internal combustion engine made its way into the mill. The first engine powered an electric dynamo (or generator) in 1910, and eventually a larger engine ran the whole mill (probably after World War II).

Electricity also found a place



Dynamo

in the Hanford's mill, even earlier than the internal combustion engine. The Hanfords most likely wanted electricity to light their mill on dark, ten-hour work days. To do that, they installed a dynamo to make electricity. At first the water wheel and steam engine provided power for the dynamo. Seeing that this new machine could make them money, the Hanfords offered light to the town in the form of electricity for light bulbs (DC current that weakened - meaning dimmer light bulbs - as the power went further from the mill). In 1926, the electric company's power line came through the village, providing more reliable electricity (AC) to the town and mill. Later, the last owners of the mill, the Pizza Brothers, also used electric motors to run mill

machinery. Unlike the first mill owners, the Pizzas relied on outside sources to provide the power for their machinery. At this point, instead of water on site, they had to purchase fuel and electricity.

This was not the main reason the mill business failed, but undoubtedly it was a contributing factor.

Hanford Mills has never been just about water power. Water is the first thing people think of when they think about old mills - the picturesque water wheel by the quaint old building, "Down by the Old Mill Stream." Yet even today, when visitors visit the museum, they have a chance to see all types of power at work. Of course they see the wheel at work, but through the last few summers we have experienced droughts and the mill has relied on electric motors to run the machinery for demonstration. These electric motors, while being modern, sit in the same locations the Pizzas built for their electric motors. On special event days, visitors can sometimes see the Hanford's Fairbanks gasoline engine at work producing electricity for lighting the mill. Some people



Even adults like to try out their own muscle power on the Museum's crosscut saw

(especially children) can get a firsthand experience with muscle power, trying their hand at crosscut saws and cant hooks.

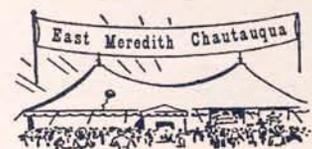
Only one old form of power is missing at Hanford Mills Museum - steam. This will soon be remedied, as the O'Connor Foundation of Delhi, New York has awarded the museum a grant to return the mill's lost steam power. Through this coming winter, the nationally renowned Benson Mountain Company will replicate the mill's 1895 boiler with the help of museum staff. The Benson Mountain Company has worked on steam restorations and reproductions throughout the country. They have built working (and safe) boilers, engines and locomotives for many museums. The museum staff hopes that in the coming years visitors will again get to see all of the mill's power-"full" history still at work.

Don't Forget the East Meredith Chautauqua

August 27 thru 29

Visit Hanford Mills Museum for a traditional Chautauqua - a fair where visitors can take part in education, culture and entertainment. The Chautauqua will feature an Orpheus Theater presentation, buttermaking,

baking, blacksmithing, wood-working and much more. Also included in the Chautauqua will be an Antique Engine Show.



The Chase Shingle Mill

by Robert Grassi

D.J. Hanford bought a shingle mill. An invoice dated September 30, 1889 lists a 40-inch shingle saw manufactured by the Chase Turbine Manufacturing Company in Orange, Massachusetts. The purchase price was \$265.00. This 40-inch (in reference to the saw blade size) shingle mill featured an all cast iron and steel construction, with a jointer attached directly to the machine. Jointers were used to true the edges of the work after sawing. They were typically sold and operated separately from most mills of this vintage. The Chase mill combined them into one machine using the same power source to drive both. It could saw both shingle and heading/box board material. Heading stock refers to material used in the construction of barrel heads or covers. It was fully adjustable and could saw material up to 30 inches in length. Its carriage feed was fully automatic with three speeds to choose from. An automatic, power-fed carriage provided a smoother sawn product and was safer for the operator than a hand-fed machine. It also came with an adjustable shingle box to catch the finished product leaving the saw. D.J. Hanford purchased a machine that was not only innovative, but it was new on the market, patented only a few months earlier on February 19, 1889.

The Chase shingle mill uses ratchet gears working in pairs, located on its carriage, to cut different thicknesses of shingles and/or heading material. For

beyond the initial three sets for an additional \$1.00 a pair. Which three ratchets D.J. Hanford chose with his new machine remains a mystery. We do know at least one pair included a set of shingle ratchets. To this date, we have no record of any additional ratchet sets that he might have purchased.

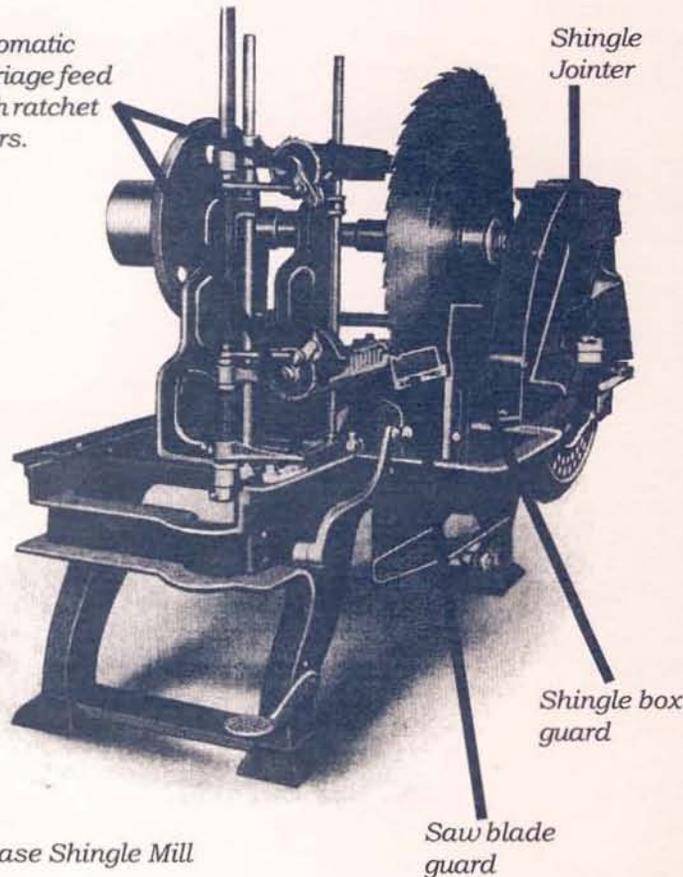
As we look back at the use of the machine, questions arise. We can assume that the Hanfords used the machine in the sawing of heading and box board material for their heading/tub cover and box/crate business. Unfortunately, we have no way of proving this usage. We do know the Hanfords used it on a very limited basis for the custom sawing of shingles (sawing a

customer's own raw material). Was it also used in the manufacture of shingles for sale?

It is interesting to note that D.J. Hanford used western red cedar shingles on his newly constructed gristmill in 1868 and on his sawmill and wood shop additions. Local woods, like eastern white pine and hemlock, made into shingles would not last as long as western red cedar. The savings using local timber would have made them more than attractive, especially if you owned your own wood lot. To keep costs down many farmers then, as today,

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Automatic carriage feed with ratchet gears.



Chase Shingle Mill

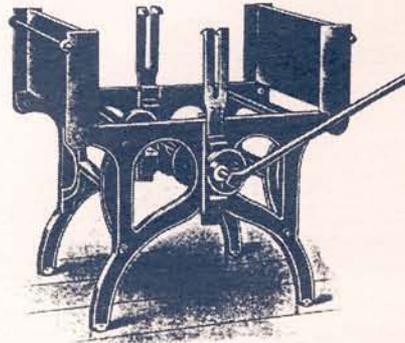
those of you not familiar with the machine's operation, shingles are sawn tapered on the machine and heading is sawn with a consistent thickness from end to end. The shingle ratchets could be used to saw both shingles and heading (the same thickness as the thickest end of a shingle) depending on how they were set up. However, the heading ratchets could only produce heading. When purchased, each new machine came with three sets of ratchets of the buyer's choice. Purchasers could choose from more than 40 different shingle and heading ratchets. All were available

Shingles - con't. from Page 10 harvested timber directly from their own wood lots to be custom sawn at a local sawmill. The Hanfords often accepted logs in trade for the custom sawing fee. They used the boards for anything and everything in their own farm repairs/construction. Throughout the Hanfords' and later the Pizzas' ownership of the mill, they consistently provided this custom sawing service for a local market. Elizabeth Hanford (D.J. Hanford's aunt) wrote in her diary, dated June 8, 1893: "Our folks getting Hemlock to the Mill for Shingles for our house." In fact, a look at the daybook entry for Friday, June 8, 1893 reveals Charlie O. Hanford (Elizabeth's son and part-time employee at the mill) did in fact purchase several items and presumably dropped off hemlock logs. On Monday, June 10, the Hanfords entered him in the daybooks as having seven thousand shingles custom sawn.

A look into the 1891 daybook reveals that there are only five separate entries for shingle sales. (I would have preferred looking into the machine's first year of use, but the 1890 daybook is unavailable.) It is unclear if the Hanfords sawed these shingles on their shingle mill or purchased them from another source to resell them. There are thirteen entries for the year that include the custom sawing of shingles. The custom sawing fee was \$1.50 per thousand shingles sawn. The price of shingles sold for all entries was \$3.00 per thousand. The Hanfords sold them either by the thousand, in portions thereof or in bunches. Bunches were bound units containing approximately two hundred and fifty shingles packaged on a shingle packer or buncher machine. Less than one month after the purchase of the shingle mill, the Hanfords purchased a shingle packer. An invoice from the

Chase Turbine Mfg. Co. dated October 26, 1889 lists a shingle buncher for a purchase price of \$16.00.

In this period, shingles were sawn in 16, 18, 20 and 24 inch sizes. The most commonly used roofing shingle was 16 inches. One thousand, or four bundles, of 16 inch shingles laid with 4 ½ inch exposure (amount exposed



Chase Shingle Buncher Machine

to the weather after you lap one shingle onto another) would cover approximately 125 square feet or 1 1/4 "square." A "square" is a carpenter's unit of measure for roof area. One "square" is equivalent to 100 square feet. Naturally, the larger size shingles would have more exposure and consequently could cover more area using the same number as the shorter lengths. A 20-inch shingle would use a 5-inch exposure. The Hanfords did not indicate an average shingle size or type of wood being sawn. We can only assume all custom sawing orders were out of a local pine or hemlock, that the sizes were whatever the customer preferred and were in random widths. The total money gross brought into the business from shingles for the year 1891 was \$135.23, \$66.23 of this was generated from custom sawing.

Looking eight years later at the year 1899 (the last full year the Hanfords owned their shingle mill), total sales from

shingles were \$522.59. There were only seven custom sawing entries for the same fee of \$1.50 per thousand, totaling only \$38.95 for the year. There were six sales of red or white cedar shingles at a price of \$3.10 to \$3.50 depending on the quantity purchased. All other entries in the daybooks for shingle sales listed only amounts of shingles purchased and no references to species. Prices ranged from as little as \$2.90 per thousand to as high as \$3.20. It is again unclear if the Hanfords manufactured some of these shingles on their machine or purchased them from another source to resell.

After a little over ten years of ownership, they sold the shingle mill in April of 1900 to Mr. T.E. Craine from Brookfield, New York. He paid \$150.00 for it, less shipping. Mr. Craine points out to the Hanfords in a letter dated March 20, 1900 that he owned a horizontal style machine (presumably a shingle saw) but it was not adaptable to saw heading material. He was most interested in the Chase shingle mill's ability to saw heading stock. Mr. Craine was a manufacturer of cheese boxes and crates and a dealer in basswood.

The reasons the Hanfords sold their machine are not totally clear. It is obvious by the entries in the daybooks over the years 1891-1900 that they operated it less and less as a custom shingle saw. Shingle sales were on the increase but so was the purchasing of western red cedar shingles for resale. We can only assume that they were using the machine to some extent to saw out heading and box board material, but maybe they were dissatisfied with its performance for one reason or another. Perhaps, considering its limited use in 1899 solely as a custom shingle saw, selling the machine was more to their

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Shingles - con't. from Page 11
 advantage. It is interesting however to take only the custom shingle sawing records from the daybooks and add them all up over the nine-year period of 1891 through 1899, subtracting estimated labor and maintenance costs (including saw blades). According to these calculations, the shingle mill more than paid for itself during its ownership at Hanford Mills.

This past winter we have rearranged the interior of the sawmill to accommodate our Chase shingle mill. The museum acquired the present machine from Emmert and Jane Studebaker of Tipp City, Ohio in the 1980s. It was previously housed outside, under a shed, near the Hardware Store and powered it by our 16 horse power Sta-Rite gasoline engine. We believe this mill to be of 1910-1912 vintage with just a few minor improvements (upgrades included a patented and improved setting device for the carriage). The Hanfords pre-

sumably operated their original shingle mill inside the mill, driven by either steam and/or water power. The Hanfords probably placed their shingle saw in the sawmill, so we have moved our shingle mill, putting it between the GreenLee power-feed rip saw and the Hermance four-sided moulder. It is now belted off the main line shaft and powered by the water wheel.

We acquired the present machine with only one set of 3/8 inch shingle ratchets. We decided to make two more sets. One set of 1/2 inch shingle ratchets and one set of 7/16 inch heading ratchets were chosen. Shingles of 1/2 inch thickness were once common and the surviving Hanford crates and boxes prove the use of 7/16 inch thick material. These particular machines have not been manufactured for more than 60 years, but we knew of a gentleman that owned the original patterns for the entire machine. He owns and operates the Saw Mill Tool & Service Company based in

Vermont and among his many interests are Chase shingle mills. He graciously lent us the ratchet patterns we requested, plus saw blade and shingle box guard patterns to have new ones cast.

When we got our machine, the original cast iron saw blade guard had been replaced with a wooden one and the shingle box guard was broken. We had this work cast at the Catskill Foundry in Bloomville, New York. Welding Machine Corp. in Walton, New York carried out all the machining work. We moved a Chase shingle buncher from collections to use once again with the shingle mill. We believe this buncher to be an original Hanford purchase for there is no record of its sale. In its new position, powered off the water wheel, with the new guard castings reinstalled and with two more sets of ratchets, we look forward to operating this shingle mill on a more regular basis this 1999 season.



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MILLWORK



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