



Pine Mill News

Friends of the Pine Creek Grist Mill Spring 2020 Issue

President's Column By Tom Hanifan

What a strange time. All our lives have been changed by the COVID-19 virus.

On a personal note, my wife and I spend January thru middle April in south Florida. When the virus got worse, we decided to stay until possibly May to allow for it to calm down. We loaded up on food for 2 weeks. But 4 days later we decided to leave. Why? The virus outlook got worse. The world around us seemed like a ghost town. Restaurants, beaches, stores and attractions closed. Our park emptied out early. Local roads had few cars. There were almost as many cases in our Florida county as in all of Iowa. So, after 2 weeks of self-quarantine in Florida we headed home and are again in 2-week self-quarantine. It was an eerie 3-day drive home. The Interstate highways had many trucks and few cars. Hotels had few guests.

How are the mill and Wildcat Den affected? An e-mail from Park Ranger Jordan Yaley says "DNR facilities will be shut down at least to the end of the month (April). I am assuming I will hear further guidance from the DNR management towards the end of the month as to when we might see facilities start to open back up. So, we have no idea when the mill will be open to visitors. A few minutes ago the Governor cancelled the school year. So school field trips will not happen. Meetings of the Friends group have been postponed. Our annual clean-up day with students from Durant High School was cancelled.

Earlier guidelines from DNR included:

- Iowa State Parks are still open.
- Limit your group to less than 10 people.
- Keep at least 6 feet physical distance from other visitors.
- All restrooms, including pit latrines, are closed until at least April 15th.
- Because restrooms are closed, camping is limited to self-contained campers until at least April 15th.
- Shelters and youth camps are closed because the rest rooms are closed.
- Playgrounds are not advised to be used because park staff are unable to keep them clean according to CDC guidelines.

Now for some good news. Friends held another successful Wildcat Den Ken Hyman Trail Run/Walk in Sept. Eighty-eight finished the course on a beautiful fall day. Three unusual things happened. Singing Boy Scouts. A Scout troop from Durant helped us put on the race. It was quite an experience hearing them sing on the trails. Second, some participants encountered deer on the trail. Third, we had an unusually large number of children finish the grueling route.



New Years First Day Hike

Park Ranger Jordan Yaley checking in the First day hikers.

We hosted 2 fifty passenger bus tours from Des Moines in the fall.

I personally had a new experience last fall. I was interviewed on a history themed radio program at St. Ambrose University. You can hear it on our Web site by clicking PODCASTS.

On New Year's Day the park held a First Day Hike. There were 326 registered hikers. That's a huge increase over the 60-80 who walked in 2019.

President's Column Cover

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The date of our next meeting will be announced.

Restoration & Cabin Report

By David Metz

Until the DNR lifts the current Covid-19 restrictions at Wildcat Den State Park the restoration crew will not be opening the mill for any work at all. My personal belief is that the mill will not be opening till at least mid June. When it does open there will be a lot of cleaning to do to get the mill ready for visitors.

Last fall we found there were spots in the steam engine flywheel pulley where the wood had started to dry rot. Dry rot (a fungus growth that destroys wood) is a constant problem in the mill basement due to the high humidity. The crew constantly is inspecting wood parts of the machines for rot and repairing or replacing the damaged parts.



Clarence Klauer is filling in a spot on the pulley with epoxy where rotted wood had been removed.

One of the problems is that dry rotted wood looks good at first glance. However it has lost all of its structural strength. You can break pieces off with your fingers. To test the wood we stab it with a knife blade or a screw driver. If the tool plunges into the wood, the wood must be replaced.

Before I started working at the mill the basement had been filled with mud up to the floor level from the creek flooding. For many years almost half of the wooden flywheel pulley had been submerged in the mud rotting most of it away. The crew at the time did an amazing job of recreating the missing half of the mill. The flywheel stayed in good condition for the next twenty years.

When we discovered the problem the first thing we did is pressure wash the pulley to get all of the dirt off it with particular attention paid to the pulley's interior. The pulley is made up of hundreds of small pieces of wood nailed and screwed together. The finished wheel is attached to the cast iron engine flywheel by six long bolts.

Once the dirt was off we discovered that one of the bolts never had been long enough to reach all the way through the pulley. We machined a custom bolt to fix this problem.

All of the rest of the bolts on the engine were checked and tightened.

There were twelve wood boards on the perimeter rim of the outside of the pulley that were totally dry rotted. Each board is curved to fit the circumference of the pulley. River City Hardwoods supplied us with Locust wood planks to fabricate the rim sections. Locust is highly resistant to rot making it perfect for this job.

We removed all of the rotted wood in the pulley by chiseling it out. The gaps were filled with new wood and where needed with a special wood repair epoxy putty. Once we had the filling done we contoured the pulley using a belt sander. The pulley next got a coat of copper based anti-fungal wood preservative. It is hoped that this treatment will prevent future damage.



Dick Stoltenburg is putting in a bed of mortar to hold one of the stones in the steps in place.

The restoration crew does some work on the exterior of the mill as well as inside. Due to erosion some of the stone steps that lead down to the boiler room door had become loose making them a tripping hazard for our guests. Dick Stoltenburg took on the job of stone mason and repaired the steps using a special mortar. This is just one more of the multitude of repairs we do at the mill.

I have long joked that we got volunteers for the restoration crew at the mill between ages 65 and death. Over the years this has proven to be sadly true. After discussing this with part Ranger Jordan Yaley he decided that it would be good if he and park Technician Karri Rutenbeck were trained on the mill's operation and basic maintenance.

Over the years I have seen that it takes at least two years of work at the mill for a new volunteer to learn the basics of the milling systems and the mill's power train of belts and pulleys. There are some specialized skills to be learned such as how to use our antique comb splicing machine to splice flat belts. Just as critical is how to make a flat belt track on



While Jordan operates the screw that lifts the runner stone Karri is looking on. Dan Litwiler is showing how one of the crane hooks is attached to the runner stone.

its pulleys correctly. These and many other skills like tramming the corn mill rollers exist nowhere outside an old mill. You need all of the 1880's millwright skills that exist no longer in industry.

We had two sessions with Jordan and Karri, first all of the basic systems of the mill's three milling plants were explained. The use of the mill flow charts (that show how everything is connected) was explained. The second session covered how to maintain the mill stones including how to safely use the stone crane to lift the runner stone off of the bed stone.

Future sessions will cover the operation and adjustment of the three roller corn mill, elevator maintenance and most important lubrication of the mills power train. If any of you are interesting in getting in on one of these sessions we would love to have you. Contact me for when we will be doing training after the mill opens.

The last day we work at the mill in the fall is dedicated to cleaning and preparing the mill for winter. The most important task is to clean all of the grain, grist and milling debris out of the mill. By the end of the season the mill can accumulate a considerable amount hidden away in various places. Every bit has to be removed. If left in the mill this material will get damp from condensation and quickly turn into a moldy rotten mess. If the grist is still clean it is given away for animal feed, the rest is discarded.

At right the corn mill and its storage bin are cleaned.

The corn cob bin in the basement has to be emptied. In the rear of the corn sheller is a gunny sack that catches all of the debris expelled by the sheller's cleaning fan. If not removed and discarded it will be a rotted mess by spring.

All of the elevator boots have to be cleaned. The clean out panels are pulled and every bit of grist vacuumed out. Any grain in the bins and chutes has to be vacuumed up.



Dan Litwiler is vacuuming up corn that was left in one of the corn mill's elevators. Crawling under the machines to do this is a good workout!

Once all of the grist is removed from the mill all of the machines and power train have to be lubricated. We use 80 weight gear oil for everything in the mill. Where grease is required only edible food grade grease is used. Fall lubrication ensures that no bearings will seize up over the winter and that there will be a smooth startup in the spring.



Do you want to know what is happening at Pine Creek Grist Mill Every Week?

Every Tuesday the Friends of the Mill Restoration Crew works at the mill restoring the mills machinery and doing maintenance. Every week an E-mail is sent to inform our members of the progress we are making. If you want to receive this informative message send an E-mail to davemetz@machlink.com and ask to be put on the list.

Benjamin Nye at Pine Mills

By David Metz

This issue we continue with the story of Ben Nye, his mills and the life of Iowa's early settlers.

In an account of Ben Nye's life written by his daughter Laura in 1894 she states that:

"Mr. Nye's first mill was a saw-mill, and in a few months he put in a pair of burrs to grind corn (Corn meal at that time was a \$1.50 a bushel). In another year he put in another pair of burrs and to grind wheat and turned it into a flouring mill. He built a sawmill half a mile down the creek and sawed a great deal of lumber."

If this account is correct what Nye did is evolve his saw mill into a gristmill to meet the needs of the local economy. That is Nye's mysterious first grist mill was actually his saw mill converted to a gristmill. Note also that her account of the him building a new saw mill a half mile down the creek is exactly opposite of other historic accounts. I think that it is reasonable that what happened is this:

1. Not knowing that the Mississippi River had regular spring floods Nye built his first saw mill at the site close to the mouth of Pine Creek in 1835. He built here to be on the old wagon road that crossed the creek at this spot.
2. Due to flooding he moved the saw mill to a location on the east side of Pine Creek from where the present mill stands. This is also a better location for a dam. Burt's survey of 1837 shows the Nye's saw mill at this site.
3. Due to the need for a gristmill in the area he added a set of millstones to the saw mill soon after moving it in 1837
4. As he exhausted the supply of trees on his property he improved his mill site by converting the saw mill to a grist mill in stages.
5. Eventually he saw flour milling as his economic future and that he needed a completely new mill in order to do the right job.
6. In order to keep cash flowing he had to keep the existing mill in operation until the new one had been finished. Thus he could not build the new mill on the same site as the existing one. This required him to build the new mill (the present one) on the west side of the creek.

According to a tree-ring dating study (technically known as Dendrochronology) funded by the Friends of the Mill in 2007 Nye started construction of his new mill by cutting trees approximately between September 1846 and April 1847. Nye had the trees cut during the winter when the trees



Robert and Laura Patterson

Laura sister Harriet married George McCoy. Her husband Robert took over the mill after her father Ben Nye's death.

sap was down reducing the need for drying the lumber. And during the winter he could hire the local farmers to do the work during their off season. Many years after Nye's death his daughter Laura said that he had thirty men in his employ building his new mill.

One of the "mill mysteries" is why the framework beams (some up to 14" X 14") are all hand hewn from individual logs and not squared up (cut) at his saw mill. We know Nye had his saw mill operating after the construction of the new (present) grist mill went into operation in 1850. We do not know when Nye dismantled the saw mill other than it did not appear in the Industrial Census of 1860.

Nye had the basement of his new mill excavated out of the solid rock that made up the west side of Pine Creek. The stone that came from this excavation became the mills strong foundation walls.

He built well using a system popular in the time for the construction of large barns called "timber framing." All main timbers were fastened together with mortis and tendon joints and secured with oak pegs. Nye made his flooring from native oak and for the siding he used walnut. Ben Nye built well as can still be seen today.

Nye's Family

Going back to Ben Nye's family life, the Wisconsin Territorial census of 1840 lists the Nye household as including Ben and his wife, three additional adult men, one adult woman, two female and two male children. The names of the additional adults are not known, perhaps they were laborers that boarded with the Nye's.

Robert Patterson enters our story sometime in the mid 1840's. An ambitious young man, he had emigrated from Ohio and arriving at Pine Mills he courted Nye's daughter Laura. The two married on February 15th, 1845. Ben Nye made his new son-in-law Robert his apprentice miller.

When the new mill on the west side of the river was completed in 1850 Patterson operated it along with an Eli Greeg who lived in the township. The new mill is listed in the U.S. Government Industrial Census of 1850. The census states that Nye had a grist mill and a saw mill in operation at that time. The census states that Nye had \$6,000 invested in his new grist mill and \$1,000 invested in the saw mill. He produced \$6,600 worth of flour in 1850 and \$1,000 worth of lumber.



A Brush Dam

Brush dams were the fastest and cheapest way a river could be dammed to power a mill. They often washed out during spring floods with disastrous results.

Water Power at Pine Mills

Ben Nye's mills were totally dependant on the flow of Pine Creek for power. At first a large overshot water wheel located in the Northeast corner of the building's basement supplied power to the mill. In northern climates such as Iowa's the wheel would build up ice in the winter stopping it or worse ice flows coming down stream would smash the wheel. By locating his wheel in the mill's basement, Nye wisely avoided some of these difficulties. Even then since the wood was constantly wet rot would set in a few years.

The constant movement of the wheel's wood shaft wore out its bearings (called gudgeons), these required constant repair.

At this point it would be good to say a few words about the milldam. The prospective miller first looked for a stream that had both a suitable flow of water and sufficient "fall" to power his mill. It is the change in the vertical level of the water, the "fall" that powers the mill. A small amount of water falling a long distance provides the same power as a great deal of water falling a small distance.

In practice a miller would look for a site that ideally had eight or more feet of fall although a fall of less than this could be made to work. He would then build a simple weir across the stream to measure its flow. By knowing the cross section of the stream passing through his weir and the velocity of the water, he could calculate the available horsepower the stream could provide. During Nye's time more of the area's rainfall would have soaked into the unbroken prairie soil giving Pine Creek a more uniform flow. Today the rain runs off the farmed land faster resulting in a more variable flow in the creek. In any case Nye would have needed at least five horse power to power his mill.

Pioneers of Nye's era often built what were called brush dams. These were temporary structures made from trees and what loose rocks were available. The miller would start by clearing the streambed of mud and loose sand and gravel. Then he would cut trees and lay them in the streambed with the trunks facing up stream. The trunks would be weighed down with rocks and the gaps plugged with more brush and small rocks. Eventually the dam would collect enough silt to become more or less watertight.

In the spring when the ice on the stream broke free and "went out," the brush dam would often go with the ice on its way downstream! Spring flooding and failed milldams were a common feature of the life of the early miller. Many a farm and town suffered from flash floods from failed milldams in the early days. Eventually better dams were built on sound engineering principles using cut stone and heavy timbers.

Nye built thick abutments for his new dam out of local limestone. The stones were held together with mortar and braced by heavy timbers sunk into the bed of the stream. Pine Mill had such a dam for many years until it too washed away in a spring flood.

We do not know with any certainty the arrangement of the machines in Nye's original mills. During his Lifetime American millers still used the traditional "American Flat Milling" system described later in this book. Since he had more than one set of millstones, perhaps he had one set dressed for corn and another for wheat. Even small mills like Nye's would have been highly automated with elevators and augers moving the grist through the different milling operations using Oliver Evans automatic milling system.

Benjamin Nye at Pine Creek Continued

Once the hoppers were filled with grain and the machinery set in motion the mill would run with little attention.

What products did Nye make? He ground flour both for shipment out of Iowa and for his local market. He certainly produced roughly ground corn for livestock feed and fine ground and bolted corn as corn meal for human consumption. Buckwheat flour for pancakes was popular in the 1800's and perhaps he ground rye as well. Oats for any purpose took a completely different process to make edible so it is certain that Nye did not produce any products from oats.

Pioneer Business Ventures

As briefly mentioned by J.P. Walton previously Nye like many other early settlers along the west bank of the Mississippi tried his hand as a land developer. He had claimed land around the mouth of Pine Creek when he settled in Iowa and had decided to start a town on the land in 1836. He had the property laid out with streets and lots for homes and named his prospective community Montpelier (after his own hometown in Vermont).

Fortune failed to smile on Montpelier as the territorial legislature made nearby Bloomington (now Muscatine) the county seat. There being no good reason to settle in Nye's Montpelier the town lots failed to sell as Nye hoped they would. He bought back the land he had sold and abandoned plans for his town farming the land instead. The Montpelier,



The "Big Bolter"

One of the original machines that Nye installed in the mill the Big Bolter (as we call it) is used to sift the grist from the millstones. It produces three different grades, flour, middlings and bran (tailings).

Iowa that exists up river from the mouth of the Pine is a later development not of Nye's doing.

Ben Nye was not the only settler looking to establish a thriving industry on this stretch of the Mississippi River. As settlers swarmed into the area in the 1830's they had their eyes out for potential business opportunities and mineral



Feustel's Pottery Works 1874

Montpelier Township had more industry than Pine Creek Grist Mill. Nearby Fairport, Iowa had several pottery works in the 1800's. John Feustel's (originally the Russel Pottery) was the largest and the last to operate in Fairport. The tall cone shaped structure on the right is the kiln.

Benjamin Nye at Pine Mills Continued

riches. Dubuque had its lead mines, known and operated since the time of the French explorers. Caleb H. Booth, Francis K. O'Ferrall, and Peter H. Engle erected a steam sawmill at Dubuque in 1837. Prospects for the mill were good enough to warrant bringing a 60 horsepower steam engine from Pittsburgh on the steamboat Rolla to power the mill.

Meanwhile at the same time Eli Reynolds and John Lawson built their own steam sawmill on Lime Creek in Muscatine County. This would be the first lumber mill in what would soon become one of many in the city of Muscatine.

Just downstream of Pine Creek Mill on the Mississippi settlers found a rich deposit of potter's clay. The location of this clay deposit soon became the town of Fairport. Elijah Sells opened the first pottery works there and by the 1870's five different concerns were in business making stoneware jugs and other pottery. Upstream on the river the village of Buffalo became known for its coal mines. The first settlers in 1834 discovered veins of coal on the surface and commercial mines began operation by 1836. By the time of the Civil War there were 25 mines in operation.

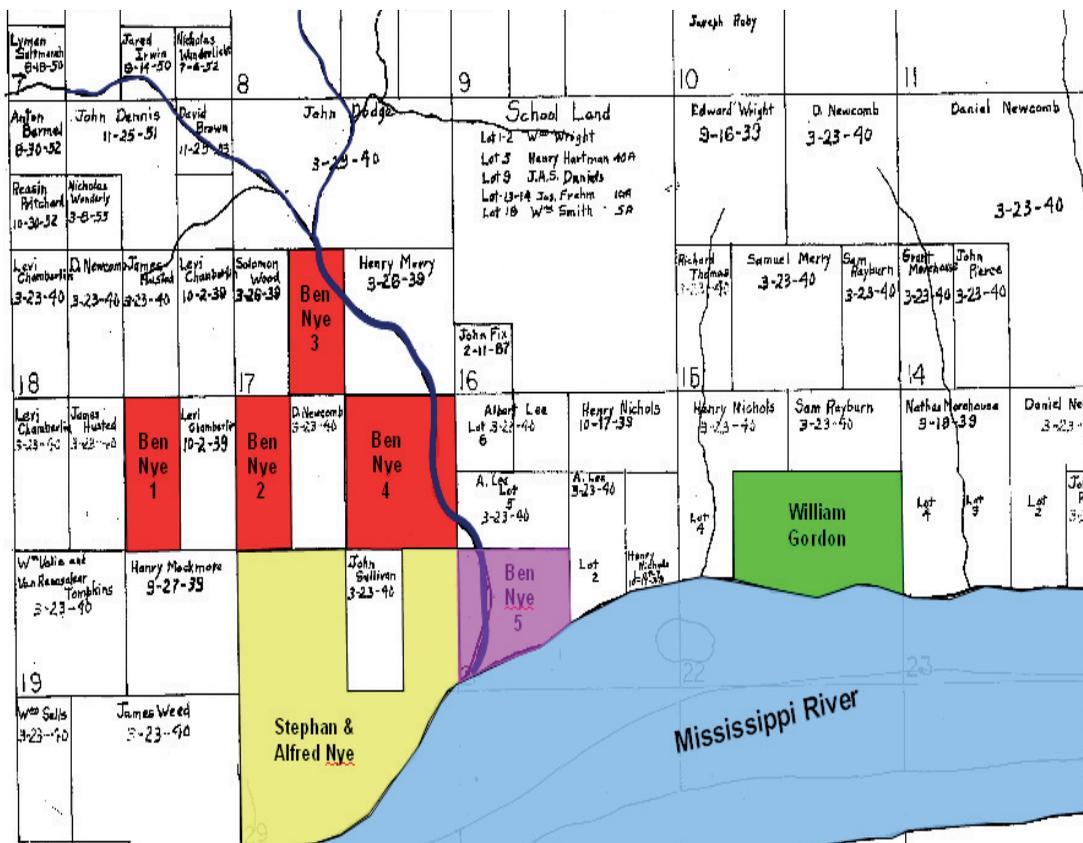
Most were about two miles from the river along Bowlings Creek. The mines sold coal to passing steamboats that stopped at Buffalo and to the area's early steam powered factories at the price of 15 cents a bushel. Even today driving along highway 22 between Muscatine and Fairport it is

possible to see veins of coal along the cliff face at an area known as Wyoming Hill (named after the long vanished pioneer village of Wyoming at the site).

Things remain static for no businessman. After Nye built his water-powered sawmill on Pine Creek, more large steam-powered sawmills were constructed in nearby Muscatine. These were boom times for the residents of Muscatine County. In 1842 J.M. Barlow built and placed into operation Muscatine's first steam powered flour mill located on the corner of 2nd and Sycamore Street. Pointing towards what would soon grow into a major agricultural industry; J. Bennett & Co. of Muscatine shipped 130 bushels of wheat to St. Louis on the steamer "Maid of Iowa" at a cost of 8 cents per bushel.

Muscatine ceased being an isolated frontier town when a telegraph line reached it in 1848. In May of that year operator O.H. Kelly opened the telegraph office for business. Coming from St. Louis, the new telegraph line gave Muscatine a direct connection with the major eastern seaboard cities.

1850 saw several years of hard work bearing fruit for Benjamin Nye. Although the siding had not yet been installed on the building the main part of the present Pine Mills had been completed and had started operating.



Ben Nye's Properties

From this plat prepared in the 1840's we can see the extent of Ben Nye's land holdings. He had five plots of land, the one in purple had the mill on it.

The yellow plot belonged to Nye's brothers. The green plot belonged to Major Gordon.

All of the land in the township was claimed in the early 1830's and registered between 1839 and 1840.

Pioneer Recipes

By David Metz

When I started editing the Friends Newsletter I had made up my mind that it would not be cluttered with boring recipes that we all know. Recently I came across some new historical material that changed my mind.

The child of the earliest Iowa settlers, miller, artillery commander and decorated Civil War Veteran Captain Karl Kruger wrote down his memories of how the early settlers in Iowa ate. Some are related below.

The Hoe Cake

During the late War of the Rebellion I had the honor to serve under General Sherman during his famous march to the sea. During this time I came face to face for the first time with the south's slaves. Among the many privations and indignities forced upon the slaves was a crude and unvarying diet. In this they had much in common with Iowa's first settlers who in their primitive existence also depended on a few basic food stuffs for their survival. As a child of pioneers I had to eat this way myself.

A slave would be given about a quart of corn meal of low quality each day for his provision. Each morning in his miserable hut hoe cakes would be prepared. No, they were not baked on a field hoe, a skillet was used. The Iowa pioneer did the same.

5 Cups corn flour
Pinch of pepper
1 Teaspoon salt
Warm water
Lard for frying, bacon grease also worked.

The corn flour or meal as it is often called came from the local grist mill. Its fineness varied with the skill of the miller. Preferably white corn was used. At best it would be ground and bolted to a flour the consistency of good wheat flour. Often the meal from the old grist mills would be rough stuff, poorly ground and bolted. If white corn could not be had, yellow corn could be used.

In a bowl the flour, pepper and salt were mixed. Warm water is added to make a batter, about as thin as common pancake batter.

Prepare your griddle or frying pan by melting about a ¼ cup of lard in it. Ladle in the batter, fry till the cake is brown on the edge and bubbling on top then like a pancake flip it over. Cook them till they are brown on both the top and bottom, then remove them from the skillet and serve.

Hoe cakes were often served as a side to go with soups and stews. They were eaten plain or with butter or jelly depending on what was available.

Hardtack

As a veteran of the late war of the rebellion I feel it is proper to elucidate the reader of this publication as to the soldiers diet during the war.

One staple was the despised hardtack. Also called ship's biscuit it is a poor substitute for common bread. The army distributed it by the barrel full. A soldier carried several pieces in his haversack along with other food items. Hardtack is nearly indestructible, hard as rock and men have seen rats break their teeth attempting to bite off a piece. Its advantage is that it would not spoil, lasted for years and if it became invested with weevils you had additional meat in your diet.



Hardtack or Ship's Bread

Eaten by travelers, soldiers and pioneers

The secret of their long life is that they contain no fat, no lard at all. Nor is the baking pan oiled. Any fat content will eventually turn the hardtack rancid.

You could chaw on it while on the march or boil it in water to make a mush or soak it in your coffee till it became edible. The mush could be fried in bacon grease to make a fritter. Or mixed with whatever food stuff or meat the soldier came across to make a sort of stew. I can say that while no one liked it, we all ate hardtack for it beat all to hell plain starvation.

If you are the wife of a veteran and wish to torture the man for some reason I present this simple recipe for genuine hardtack. To a pound of poor quality flour add a tablespoon of salt. Add water to make a stiff dough and knead it well. Roll out the dough about 1/2" thick. Cut into squares about 3" X 3" and prick them with a fork in several places. Bake them about four hours in a 250 degree oven until they are rock hard. Allow them to cool on a rack. They should make a sound like a brick when you drop one on a hard surface.

Editors note: I have baked hardtack as an experiment and I can attest to the fact that the Captain's description is totally accurate.

Oak Cakes

Another example of the privations of the early settler is the Oak cake. In the early days my father spoke of there were times when wheat flour was hard to find and dear in cost if you could. Besides oats you could make the cakes from barley or rye. People were forced to sustain themselves on whatever God provided.

You ate these in desperation for I can think of no other time I would consume oak cakes. An oat cake resembled a real cake in the sense that a horse shoe resembles a shotgun. That is both are made of steel, however the resemblance ends there both in form and purpose. That said the starving settler was damned happy to have them.

If oat flour could not be found barley or any other grain could be substituted. The recipe is simple, you mixed oat flour, a little salt and water to make a stiff dough. It need not be kneaded for oats contain none of the vital element that allows wheat bread to rise.



Oat Cakes

They instantly soak up all of the grease in the skillet and then will burst into flame if allowed to.

You built a fire and if you did not have a griddle or skillet a flat rock would do. Once rubbed with lard I can testify from personal experience that a rock works as well as anything. Make your cakes about 3" in diameter and no more than 3/8" thick. Bake them on the griddle till they are brown on one side and then flip them. Be careful not to let them burn.

I have eaten oak cakes with butter and plain. I recommend trying them at least once so as to fully experience pioneer life. Who knows, you might even like them although I doubt it.

Beer or Traveler's Bread

Many Germans were among the early settlers of Iowa. They required a good supply of beer, therefore every town and village had its breweries. Before bottles became common you brought your beer home in a metal can with a lid called a growler. Bottles came in around 1870.

There is always a need for a quick bread, particularly for those who traveled over the plains by horse and wagon. Although all called this bread by its proper name, that is Beer Bread, my father called it a Traveler's Bread for if you had access to a bottle of beer you could make a loaf of it in an hour.

3 Cups of self rising flour
2 Tablespoons of any sugar
2 Tablespoons honey
1 ¾ Cups of lager beer or one 12 oz. Bottle
3 Ounces butter

If you lack self rising flour, use any wheat flour and add to it 1 teaspoon salt and 1 ½ table spoons baking powder. If no honey is at hand double the sugar.

You cannot go wrong with this recipe, do not fuss over getting the amounts perfect. I never saw my mother ever make any measurements.

Put your flour in a bowl and mix in the flour and sugar. Send one of your youngsters for a growler of beer, add 12 ounces of the beer and stir till you have a stiff dough and no dry flour remains. Pour some of the melted butter in the pan, scrape your dough into the pan and then pour the rest of the butter over it.

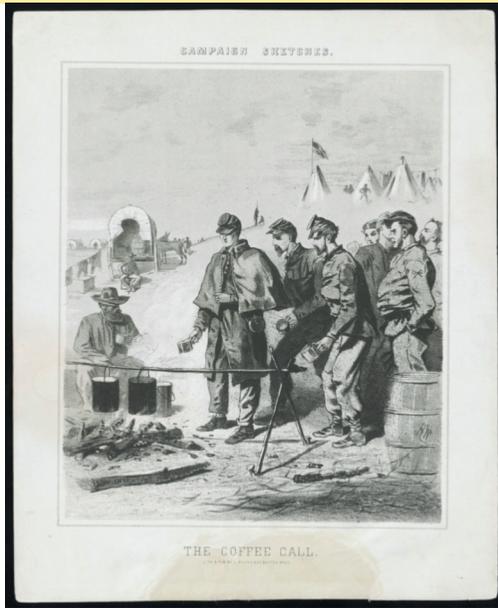
You can bake your bread in a Dutch oven set in coals or in a medium oven, be sure to build your fire prior to starting to make the dough. [In a modern oven bake for 50 minutes at 350F.]

Butter up your finished bread and wash it down with the remaining beer if there is any.

Coffee

If as Napoleon said famously "an army marches on its stomach," its lubrication is by coffee. During the settlement period you could only purchase coffee in the form of green beans. Little attention was paid as to the coffee's type or its quality, you were damned glad to get what you could.

You bought your coffee from a local trading post, it was one of the "necessities" that old Ben Nye sold at his trading post on the Mississippi River on the Pine Creek.



During the War of the Rebellion the army could not provide enough to the troops to satisfy the demand. At the war's peak the army distributed 36 pounds of coffee per year per man. Each squad made its own coffee and various ingenious and largely useless schemes were employed to assure a

perfectly uniform distribution. No matter what we officers did after the distribution some fowl malcontent had a fit because some other outfit got one more damned bean than his did.

Once the soldiers got their beans they roasted them in the units commonly held skillet that they had purchased from a sutler. The men would stand around the fellow doing the roasting all offering their opinion as to when the beans had reach perfection or been burned to cinders.

The roasting concluded the beans had to be ground. Since the army did not then issue coffee grinders the skillet full of beans would be placed on the ground and the beans battered into submission with the butt of a rifle. This caused no small amount of consternation for the army for in the soldier's rush to have coffee many rifle stocks were broken. Eventually soldiers began to buy proper coffee mills and the breakage of rifles decreased.

The Friends of the Pine Creek Grist Mill officers are:

David Metz edits your newsletter, contact him if you have any questions about or material for the newsletter.

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Coffee increased the fighting spirit of the men in my artillery unit. Before a battle I ordered them to drink a couple of cups, then fill their canteens with it to keep them fighting.

As an example I give you President William McKinley. He became famous when during the battle of Antietam in 1862. Then 19 years old he rallied the exhausted Ohio Boys by braving heavy gun fire to bring his regiment buckets of hot coffee. Re-energized the once exhausted soldiers began firing their guns with renewed vigor driving back the confederates. Coffee had saved the day for them and three decades later put McKinley in the White House.

At our Iowa home we roasted our own beans that my wife Anna purchased by the pound from a open barrel at the local store. She roasted them as the soldiers did, only we had the luxury of a properly engineered coffee mill. I somehow got the job of cranking it.

In 1864 someone invented an automatic coffee roasting machine. After the way pre-roasted ground coffee began to be sold in paper bags. This greatly reduced the trouble of brewing coffee and gave the drinker a consistent cup.





Do you have something for the newsletter? To keep your newsletter interesting we need your ideas, photos and editorial submissions.

Contact editor Dave Metz with your ideas, comments or questions about the newsletter:
 davemetz@machlink.com or
 563-263-4222

Pine Creek Grist Mill is on the web and FaceBook! Get downloads of our publications and see photos of the latest happenings. See us at:

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Learn more about other Muscatine area attractions



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 Box 1205
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The Friends of the Pine Creek Grist Mill

Pine Creek Grist Mill is located in Wildcat Den State Park in Muscatine County one mile north of highway 22 between Muscatine and Davenport, Iowa.

The mission of the Friends of the Pine Creek Grist Mill is to restore, operate and maintain the Mill and to share the historical significance of the site through educational programs, public tours and events.

The Friends of the Pine Creek Grist Mill Membership

2020 Membership

Membership is only \$25.00 per year. Your membership includes
One year membership in the Friends
The Pine Creek Grist Mill Newsletter
An opportunity to learn about and participate in a local historic treasure

Name _____

Address _____

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Send this application and your check to: F.O.M. C/O Mr. Tom Hanifan
Box 1205
Muscatine, Iowa 52761