



The Friends & Neighbors of Putnam Memorial State Park



“Connecticut’s Valley Forge”

Bethel/Redding CT



February 2012 NewsLetter

“An Army Marches On Its Stomach” ...

In the January/February 2012 issue of the *Patriots of the American Revolution Magazine*, respected military historian Douglas Cubbison authored a wonderful article about the Baker General of the Continental Army, Christopher Ludwick. Ludwick was a Hessian and became a baker. He migrated to America and began a very successful baking career in Philadelphia. With the approach of the war of independence Ludwick became involved in the Patriot cause. He was a member of the Philadelphia Committee of Correspondence. He, as a successful businessman and Patriot donated both time and money to the local militia. After the war began, he was particularly interested in trying to convince German prisoners of war (Hessians), as well as active duty Hessian troops, to come over to the American side.

By the spring of 1777, according to Cubbison’s article, it was apparent that the American Commissary system responsible for feeding the Continental Army was in disarray. Congress offered Ludwick an appointment as superintendent of bakers and as director of baking in the Army of the United States; Baker General of the Continental Army. From that day forth the quality and quantity of bread for the troops in the army was considerably improved. Ludwick remained in this post for the remainder of the war. We will return to Ludwig momentarily, but to sum up his objectives for the army ... there were two important military leaders in the eighteenth century that were attributed as saying, *“An army marches on its stomach”*. The first was Europe’s premier military master, Frederick the Great, King of Prussia. The second was another rather noted military leader in his own right, Napoleon Bonaparte. Timeline-wise, it is quite possible that the latter borrowed the saying from the former. The words applies to logistical supply of providing food and supplies to the troops during war. Without the supply line the armies were stopped dead. Napoleon found this to be especially true.

Ludwick remained at his post of Baker General throughout the of the war. From Valley Forge to Yorktown, he oversaw the bakery operations that fed American troops. Washington honored him with a citation at the end of the war.

Bread, Who Invented It?

Botanical archaeologists think that the first discovery and use of wheat was in the Mesopotamia region going back as far as the 18th and 17th centuries B.C. Somebody figured out how to take the grain or seeds from the wild wheat plant. Then, someone said, “now what do we do with it?”. At some point they figured out how to crush it and make ‘meal’ out of it which when mixed with water, could then be baked on a rock griddle. Hmmnn! Great idea, but still needed lots of work.



Wild wheat along the Tigris and Euphrates Rivers were thought to be the first source of wheat.



Someone figured out how to separate the grain from the plant, and crush it into rough meal (like corn meal)

Fast forward up to 5,000 B.C. in Egypt. Grain was being stored in granaries along the Nile. The flat breads (that didn’t rise) were being used, but by now someone figured out a good milling process to produce flour. Then some smart Egyptian figured out how to add a leavening agent like yeast. Knead the dough, and then bake it in a oven. Hmmm, nice fresh bread. So, after a few thousand years of experimenting, they were getting close to “good”.



Wheat to grain to flour



Flat bread



Grist mills

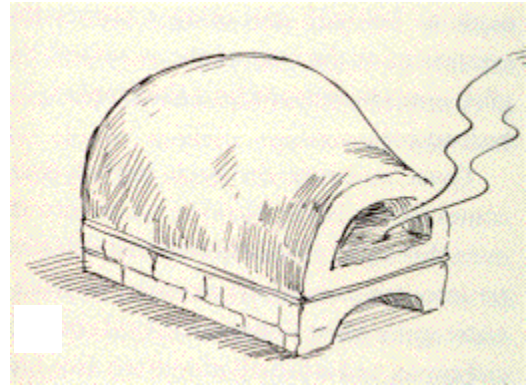


Egyptian ovens



Raised bread

Roman Brick Ovens



Roma 100 A.D.

The next big evolution in bread making was the Roman's development of the ceramic bee hive oven. Kind of like a brick igloo. The floor was made of brick or ceramic tiles, the walls of the interior were made of brick. A hot wood fire would be made inside the oven to heat the brick. When the right temperature was reached, the coals and ashes would be scrapped out. The oven floor would be swept clean, and the bread dough placed right on the oven floor of bricks. The Roman oven was also called a '**black oven**', because the flames and smoke would coat the doorway when fired.

The expertise in the oven development was once again linked to the military. Roman legions traveled far and wide in their geographic conquests. Their troops also "marched on their stomachs". Roman bread was pretty good.



The standard Roman army loaf of bread was 6lbs. Compare that to a loaf of bread in our grocery stores today. A loaf of regular Wonder bread is around 20 oz., but some grains are heavier.

The British Army, 1700 years later, still used the 6 lb. loaf as standard. When the American Army was being formed, almost everything was a carbon copy of the British. After all, they were one of the largest military machines in the world at that time.

George Washington, himself, patterned his new army after the British forces. So the standard size loaf of American army bread became **6 pounds (96 oz.)**.

Continental Army loaf of bread was 6 Lbs.



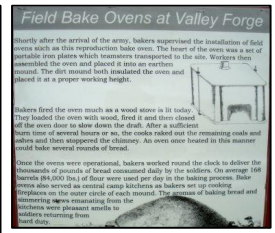
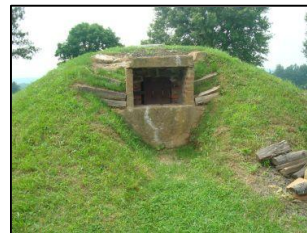
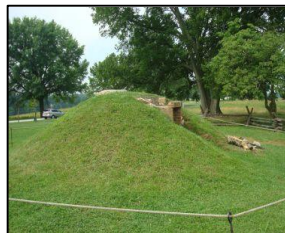
Loaf of Wonder Bread Is about 20 oz.

Continental Army Ovens

Baker General Ludwick had a tremendous job cut out for him. First he had to recruit, train and license qualified bakers. The search went out immediately for those troops who were bakers in civilian life. The bakers received a soldiers wage plus a bonus rate for an artisan skill. Then, they went out into the civilian market to try to hire bakers. Getting trained bakers was difficult throughout the war.

The next chore Ludwick had was the construction of brick ovens at the various permanent and semi-stationary locations. Washington wanted fresh baked bread for the troops wherever possible vs. simply handing out flour to the soldiers. On the other hand, some troops that were leaving their main camp for special duty assignments which took them away from their home base, needed hard biscuits which they could carry with them, and not spoil. Ludwig would send instructions on ahead so the artificers (masons, carpenters etc.) would be ready with materials to construct the ovens. Most of the winter encampments were constructed of wood (log huts) and stone (fireplaces). Plus, there were actual savings in flour supplies. One pound of flour resulted in nearly one and half pounds of bread after being baked. It was simply a more efficient method of supplying the troops with fresh made bread.

Extra ordinary military operations, like the march to Yorktown, required special planning. The bakery department actually commandeered civilian bakery ovens along the route of march to bake as much bread and or hard biscuits as they could for the troops on the move. Even the temporary type cast iron ovens couldn't possibly keep up with those troops on a constant move i.e., the French and American forces were marching at a constant rate towards Yorktown, but there was even a plan for this.

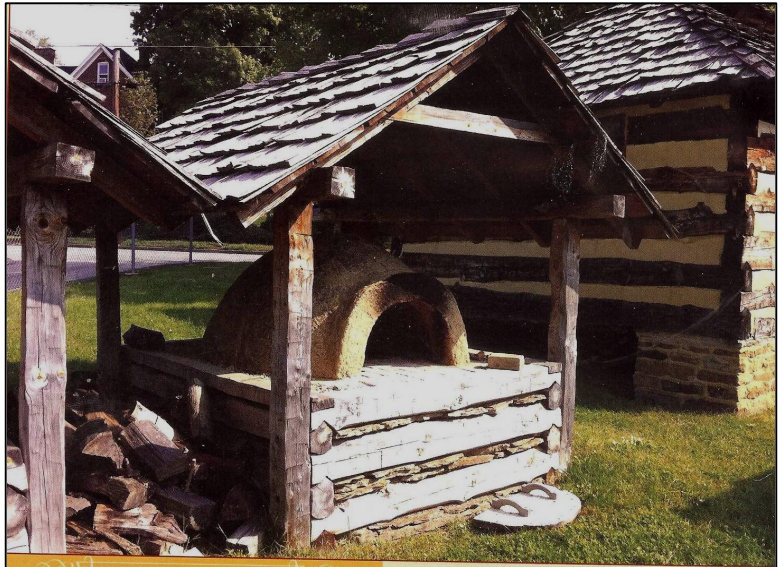


A cast iron field oven which was developed using sheets iron. Not as efficient as a brick oven, but it was portable for troops on the move. The garrison camps (like long term winter camps) used the brick ovens. Troops on the march often got hard bread (like hard biscuit or hard tack) it was possible to pack these in barrels for use on the march. Like eating hockey pucks. The oven above was at Valley Forge.

Roman Style Brick Ovens Built At Continental Forts & Camps



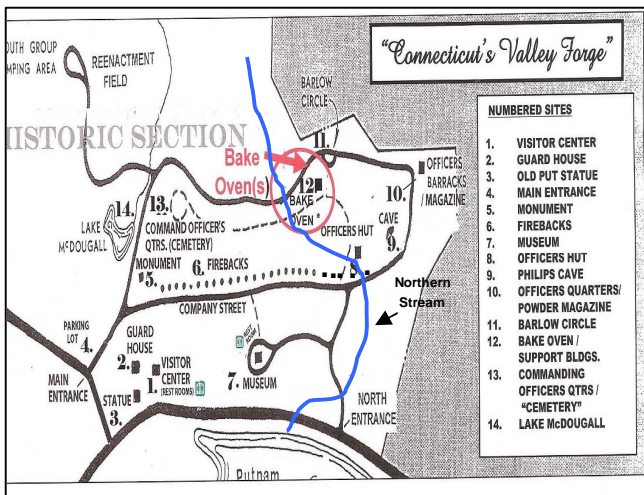
These replica bake ovens were the kind used at Fort Ligonier in Pennsylvania. We think this was the type of oven used at Redding camps in 1778/79.



This bake oven is a Roman style 'Black Oven' (see smoke soot over oven doorway). Per Baker Ludwig's instructions, it was built with green wood (timbers for base and roof cover), stone rubble inside the wood crib, and brick (the top of the crib is paved with brick and acts as the masonry floor for the bee hive oven – which is also constructed of brick, then given a mud or clay plaster coating to insulate the oven. Note the wooden doorways which were put in place to keep in the heat while baking.

Douglas Cubbison tells us that there are very few bake ovens still standing at the numerous forts and camps in existence today. Like our many log hut sites at our park, all remnants of wood have vanished. In some of the forts Cubbison has worked at, i.e., Fortress West Point, the locations of the ovens are not known. We know that they were constructed and when ... but not where they were located. The bread ovens were important fixtures at all of the camps, depots and forts of the Continental Army. Feeding the troops was a primary mission of the logistical corps of the commissary supply operations. The bakery operations required trained bakers. It was not a simple "just mix water with flour" job. Yeast addition, kneading, and producing standardized units of bread was a necessity, thus the need for trained bakers.

Location of Oven(s) at Putnam Park



Park Map showing the location of the bake oven(s). The oven is located next to the steep slope of Barlow's Circle. There is a "Y" shaped tree which is literally up against the hill. The only remnants visible today are piles of stones scattered around the base of the tree.



The interpretive sign for the Bake Oven shows the visitor more where the ravine is rather than the exact oven location. A better path to the actual spot is to look for the "Y" shape tree at the base of the steep slope created by the Barlow Circle site. This whole area is ripe for archaeology.

We are fairly sure that Hazen's Canadian Regiment held the most northern position in the enlisted men's hut line. That would place them nearest to the oven situated up through

the ravine and stream that they were next to. Sgt. Maj. John Hawkins wrote in his diary, "In Our Upper Town are the Field, Staff, and other commissioned Officers, their Waiters, with a number of public Huts, such as the Commissary's, the Quarter Master's, the Carpenter's, the Shoemakers, The Taylors, the Bake Oven inclosed in a Hut, and the Soap Boilers, besides a hut in each Regiment for the Quarter Guard etc. etc. ,,". The bake oven certainly would have be built near running water for the bread making process.

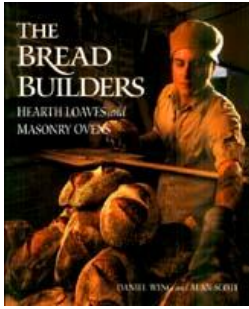
February 2012 FANs Meeting

To contact us: fansofputnampark@att.net



Notes from the prez ...

1. **President's Welcome** – Scott Stetler
2. **Treasurer's Report:** TG Henderson reviewed balances .
3. **Park update:** Nate reported that funding for officer's quarters is approved. Nate getting estimates. Serious concern over State Park staff reduction. FANS to seek park's value testimonials from local politician's and business people. FANS next newsletter to address staffing issue.
4. Ct 5th has declined to host the **Nov. event**. Brian McCoy and Dave Solek have offered possibility of their groups hosting the event.
5. Scott Stetler and Jeanine Herman are going to attend **STATE FANS Meeting in Hartford, March 21st** .



Putnam Park's Oven(s)

As Sgt. Maj. Hawkins points out in his diary of 233 years ago, there were a lot of buildings up the hill from the enlisted men's hut line. Among his list was the Bake Oven "inclosed in a hut". Dan Cruson's new book on the Winter Camp at Putnam Park gives us more clues identifying the location; "... a so-called bake oven was one of the first features mentioned of the site. It was described in one of the earliest commissioner reports of 1889 and the subsequent 1890 guide to the park... subsequent guide books have also referred to bake ovens on the slope just east of Barlow Circle..." Boston University conducted an extensive study of the park back in 1990. Head archaeologist Ricardo Elias said their survey plotted the location from an 1890 survey map, and located a distinctive mound. They dug a test pit near the mound and found, although not conclusive But thirty five fragments of brick were recovered, which argues strongly for the location of the location of the oven on this site, since brick was not used in any other construction in the encampment". Dan Cruson gives us one further confirmation in his new book Page 35, "Forty years ago, the author walked this area and distinctly remembers a considerable number of bricks visible on the surface of this area".



In this ca 1990 photo of the bake oven location, the debris and leaves had been removed by the Boston University archaeology team exposing the pile of stone rubble. This scene looks up the steep slope toward Barlow's Circle.



This photo was taken prior to removing the leaves and debris of the mound of stone rubble. Here a BU archaeologist holds up a nice full brick. Brick was only used in the bake oven at the camp.

We are not sure if there was one or two bake ovens. Hawkins diary said the oven was "inclosed in a hut", but if you look at the drawing on the Bake Oven sign #12, it would "appear" from a distance that the oven was in a hut. The only way an oven could be inside a hut would be to install flues and chimneys on the ovens to vent the smoke outside of the hut. We think the ovens were "black ovens" and did not have flues. An enclosed hut would have been necessary, however, for the dough making and kneading preparation area, as well as storage of finished loaves of fresh bread and/or hard biscuits.

The next FAN's Meeting will be on Monday, **March 12th, 2012**
at 7:00PM at the **Visitor Center** at Putnam Park.

Check out our FANs Web site at www.putnampark.org

