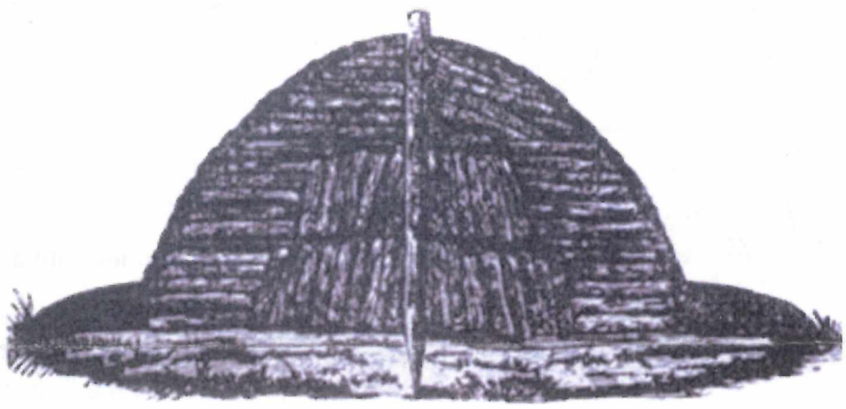
Catoctin Mountain Park

National Park Service
U.S. Department of the Interior

Catoctin Mountain Park

Charcoal



Charcoal is one of the three resources that go into making iron, the other two are iron ore and a flux, usually limestone. Of the three, it is the only renewable resource, but also the most expensive one to acquire. It cannot simply be mined, but must be created through a time-consuming, delicate process. An immense amount of charcoal was required to keep a furnace the size of the Catoctin Furnace running. When it was "in blast," the furnace would consume 800 bushels of charcoal per day – much of which came from Catoctin Mountain.

Fueling the Furnace

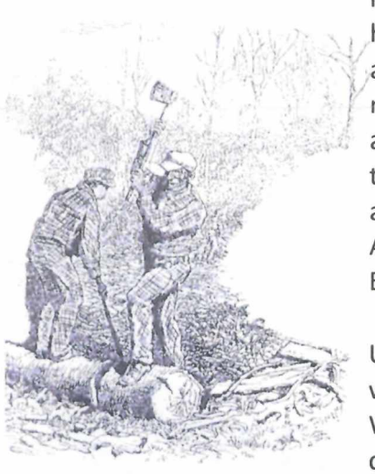


Using charcoal to make iron is a process that came to the colonies from England. In the 1770s, when the original Catoctin Furnace first began making iron, charcoal was the only fuel available. With acres upon acres of hardwoods available for harvest, nearby Catoctin Mountain served as an ideal fuel source.

Isabella, the stack still standing in Cunningham Falls State Park, operated until 1893. The arrival of the railroad to Mechanicstown, or later known as Thurmont, in 1871 marked the beginning of the end for the regional charcoal industry. With more efficient fuel, in the form of coal, being brought from farther distances, the use of charcoal at the furnace became virtually obsolete.

The furnace hung on for nearly three decades after most of the iron industry shifted from charcoal to anthracite coal, but in 1903 Catoctin Furnace "blew out" for the final time, losing in business to the cheaper anthracite furnaces.

The Ring Of Axes And Smell Of Charcoal

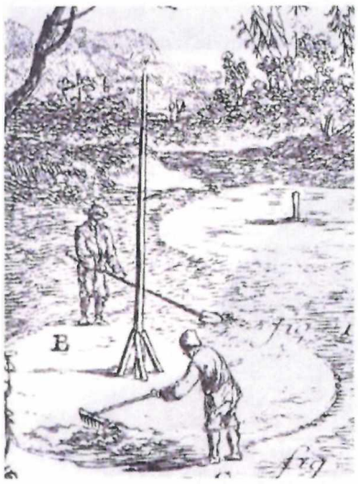


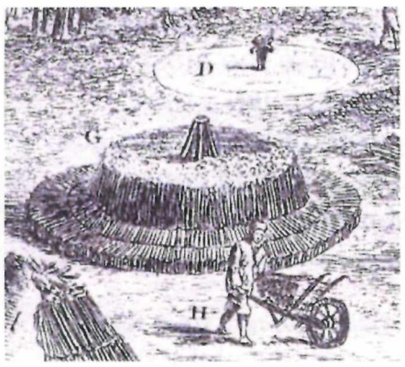
Throughout the furnace's history, woodcutters made up much of the workforce. More than 300 woodcutters harvested approximately 11,000 acres of hardwood during the furnace's operation, and often did so during the Winter months. In the early years of production at the furnace, most of those tasked with the backbreaking work of woodcutting and charcoal production were enslaved Africans and African Americans, as well as European immigrants.

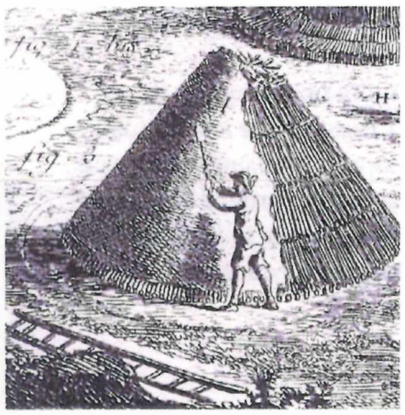
Using only axes, saws, and sleds, woodcutters averaged two cords per day. While this may appear to be a large quantity of wood, when converted to charcoal this was only enough to keep the furnace operating for about 2 ½ hours. The average charcoal hearth consumed 30 cords of wood to produce around 1,100 bushels of charcoal, enough to keep the furnace operating for 1 ½ days.

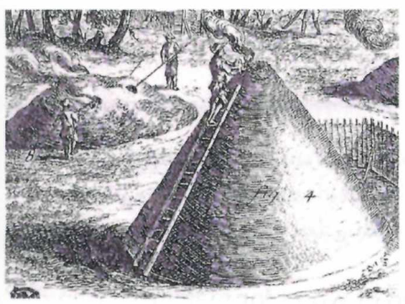
The best kind of wood for making charcoal was hardwood trees that were 20-25 years old. A furnace with about 6,000 acres of forest could create a system in which woodcutters would cut what they needed from a specific area, then take measures to prevent livestock from eating the new "shoots," and 20 years later, woodcutters would work their way back around to this area and cut again.

Making Charcoal









Making charcoal requires constant attention to the charcoal pits, or hearths, which averaged in size from 30-40 feet in diameter. For this purpose a collier would live in a makeshift hut with one or two helpers who would tend up to 8 or 9 pits at one time. There can be no break in the vigilant watching of the pits from the moment they are lit until the moment the teamster drives away with the final load of charcoal. The process includes numerous steps:

- The pit, or hearth, is cleared of vegetation and made as level as possible.
- An 18-foot green pole of wood, called a "fagan" is driven into the ground at the center of the hearth.
- A three-cornered chimney with an 8-inch opening is built around the fagan.
- Wood is added around this chimney in three layered tiers that spread out around the chimney to the edge of the hearth. The bottom tier is referred to as the "foot", followed by the "waist," and then the "head" at the top.
- All possible air holes and spaces are filled in with the remaining pieces of wood.
- The pit is covered with a layer of leaves and dust.
- The chimney is filled to within a foot of the top with kindling.
- Red coals from the collier's cooking fire are shoveled into the kindling-filled chimney.
- The pit is carefully monitored for air holes in the surface, which were filled by "jumping the pit," or stepping around, finding soft spots, and adjusting the wood to fill them in. Also, vents can be made on purpose to draw the fire in certain directions to be sure that all of the wood is turned into charcoal.
- In about 10 days to 2 weeks, the pit "comes to foot" meaning that the wood has been turned into charcoal.
- The pit is then raked out slowly and carefully starting at the foot in the place where the dust is driest.
- The charcoal that is separated from the pit is carefully watched until all signs of fire have gone out of it.
- Charcoal is loaded onto the teamster's wagon and brought to the furnace charcoal house.
- Pieces of wood that failed to be turned into charcoal were placed in smaller pits and burned into charcoal over the course of a few days. This is called "foxing the brands."

