



Sloss Furnaces

National Historic Landmark

Birmingham, AL

slossfurnaces.com

Or, What I did
on my Summer Vacation



Sloss Furnaces

Birmingham, AL

- Ready supply of 4 x coal (coke), 2 x iron ore and 1 x limestone
- Nearby confluence of railroads developed post Civil War
- Operations began in 1882
- Produced pig iron for 90 years
 - Initially \$11/ton vs. \$18/ton in North
- Ceased operations in 1971
 - Obsolete equipment, labor intensive, pollution concerns
- Designated National Historic Landmark in 1981
- Open daily for free tours
 - Weekly iron pour
- Multiple metal arts programs offered
- Audio tour 205-510-7031

Iron Making

- Centers around blast furnace
- Fuel (coke), iron ore, and flux (limestone) supplied to top of furnace
- Air blown into bottom of furnace
- Product from bottom is iron plus slag
- Continuous operation - two days to heat or cool furnace



Blast Furnace



Material unloaded from rail to electric scale car



The Blowing Engine



SLOSS

THE BLOWING ENGINE ROOM

The blast furnace required a tremendous amount of air—about two tons for every ton of iron produced. That air was known collectively as the “wind.” The eight giant steam-powered piston engines in the larger room drew from 3000 vertical iron pipes and the early 1950s. As that room they were replaced by the two turbochargers in the adjoining room. (The new turbochargers the turbochargers could do the work of all the old blowing engines.)

The room containing the giant blowing engines was built in 1902 and is the oldest structure at Sloss. The turbocharger rooms were added when the turbochargers were installed.

THE PROCESS

Although built in the early years of the century, the blowing engine requires the practice of steam-engine technology. The engine is a complex of machinery that is still used in the steel industry. Each engine had a steam boiler for fuel and an air-cooled turbine. Steam drove the pistons in the steam cylinder up and down, it was driving the pistons in the air cylinder. The steam engine added to an engine and a pulley to lift the engine and a piston No. 1, the engine No. 2. The blowing engine

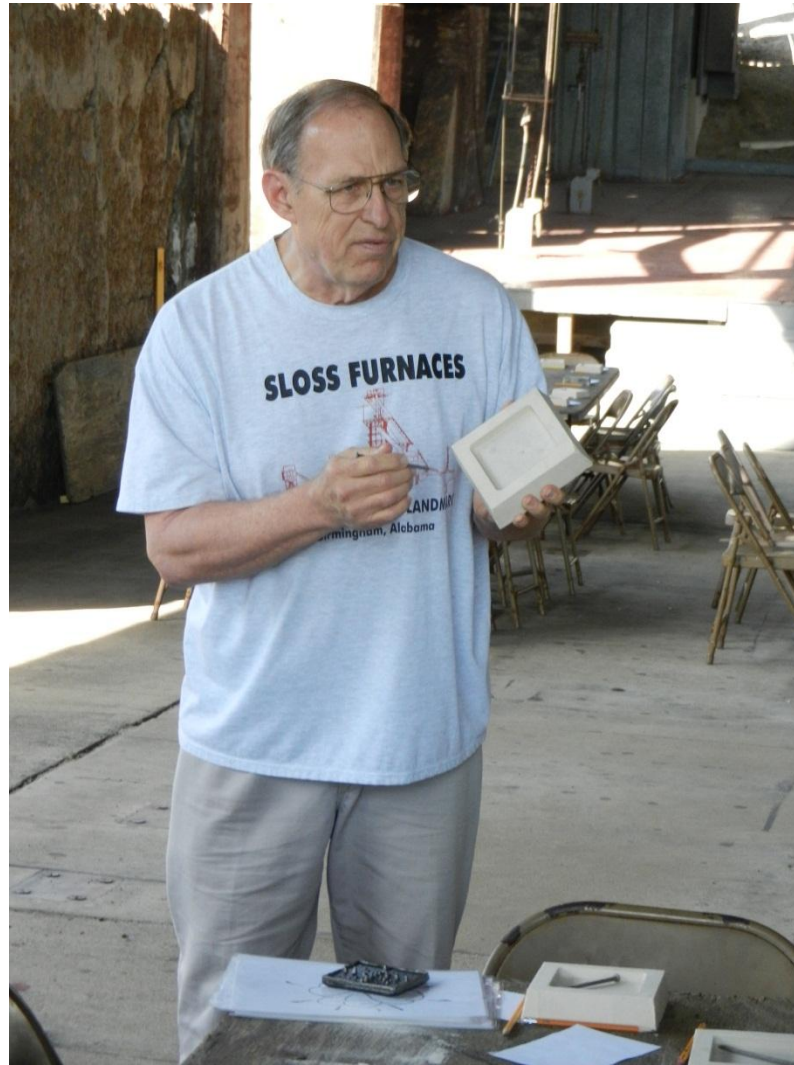
operated at 12 to 15 times the pressure of steam power, and produced an average flow of 1000 to 1500 cubic feet of air per minute. The engine was built in 1902 and was replaced by the turbochargers in the early 1950s. The engine was built in 1902 and was replaced by the turbochargers in the early 1950s. The engine was built in 1902 and was replaced by the turbochargers in the early 1950s.

Burning Waste CO2 for Steam



Iron Pour

Sand and Resin Mold



Adding Coke to 75 lb Furnace

Iron is from Brake Drums!



Pour from 75 lb Furnace





Movie



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