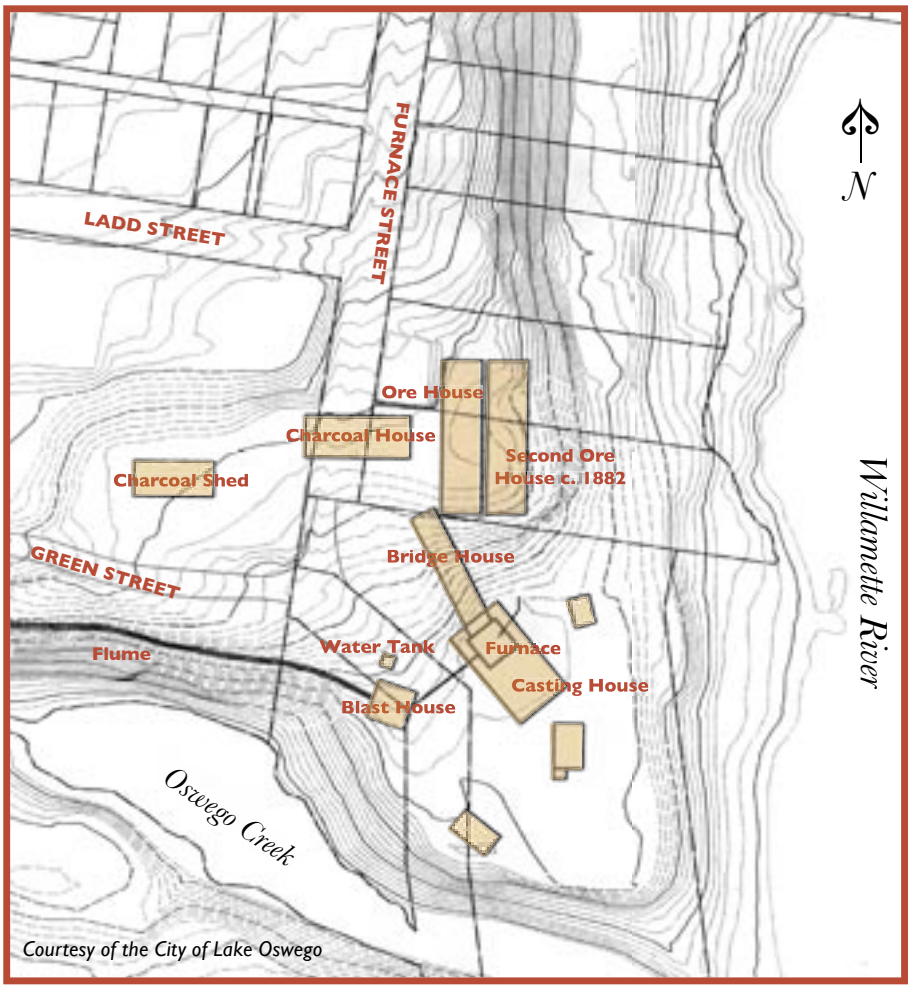
FURNACE CONSTRUCTION

Susanna Campbell Kuo © 2008

The Oregon Iron Company c. 1870 *Collection of the Oswego Heritage Council*

The Oswego Furnace was built at the confluence of Oswego Creek and the Willamette River, a spot that provided both waterpower from the nearby lake and transportation by river. Like all furnaces of this period, it was built next to a hill. Raw materials were stored on top of the hill so they could be easily moved across a bridge to the top of the furnace. From the casting house it was a short distance to the river landing where the pig iron was loaded on ships.

By the 1880s the furnace had become outdated so a new furnace was built half a mile north. The second furnace was modeled on the larger "hard driving" furnaces of Andrew Carnegie. The new plant also included a pipe foundry, 42 brick kilns for charcoal making, and extensive rail lines for moving materials.



Courtesy of the City of Lake Oswego

First Furnace

Years of operation: 1867-1885

Built in 1866-67 by the Oregon Iron Company

- Ten-ton stack, 32 feet square and 34 feet high
- Modeled on the Lime Rock Furnace in Lime Rock, Connecticut
- Construction foreman: George D. Wilbur of Sharon, Connecticut
- Mason: Richard Martin
- Masonry style: Ashlar (basalt blocks quarried on the north side of Sucker Lake) Gothic arches of red brick
- Blast system: water-powered hot blast; Leffle double turbine water wheel with two wooden blowing tubs. Heat exchanger with cast iron pipes in brick oven on top of the stack; paired downcomers and bustle pipe placed inside the stack.
- Three tuyeres (blast pipes)

Remodeled in 1879 by the Oswego Iron Company

- Stack height increased by 10 feet.
- New blowing engine from Smith Bros. & Watson, Portland
- Downcomer and bustle pipe moved to the outside of the stack

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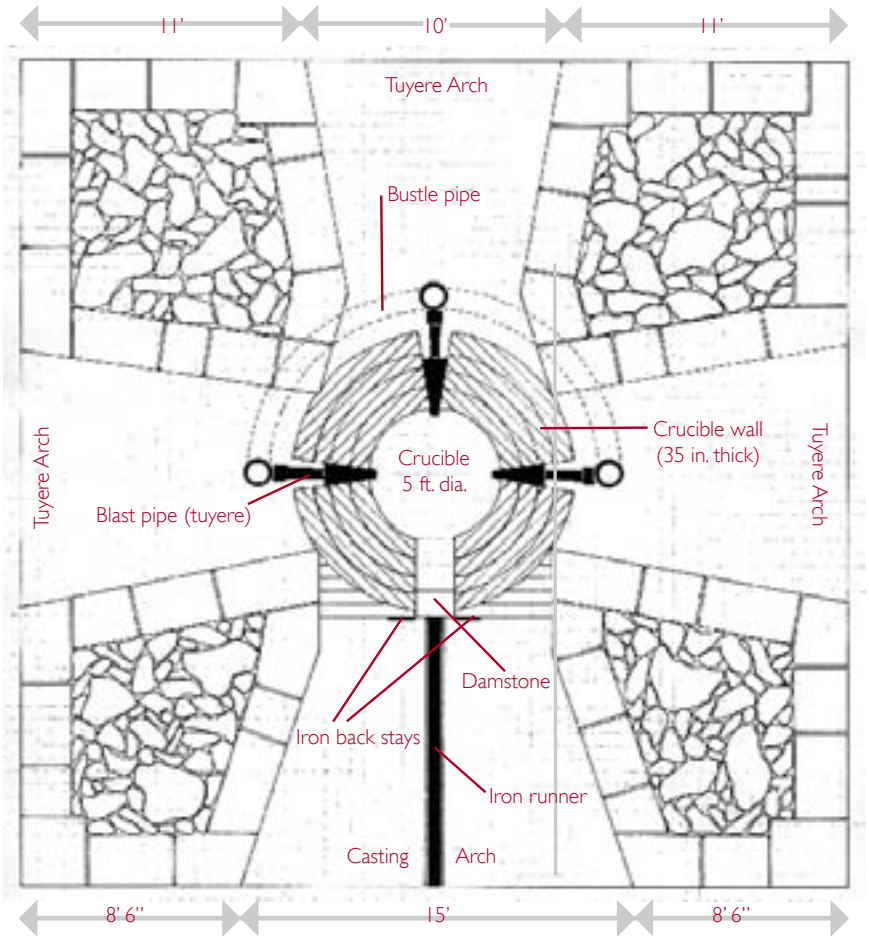
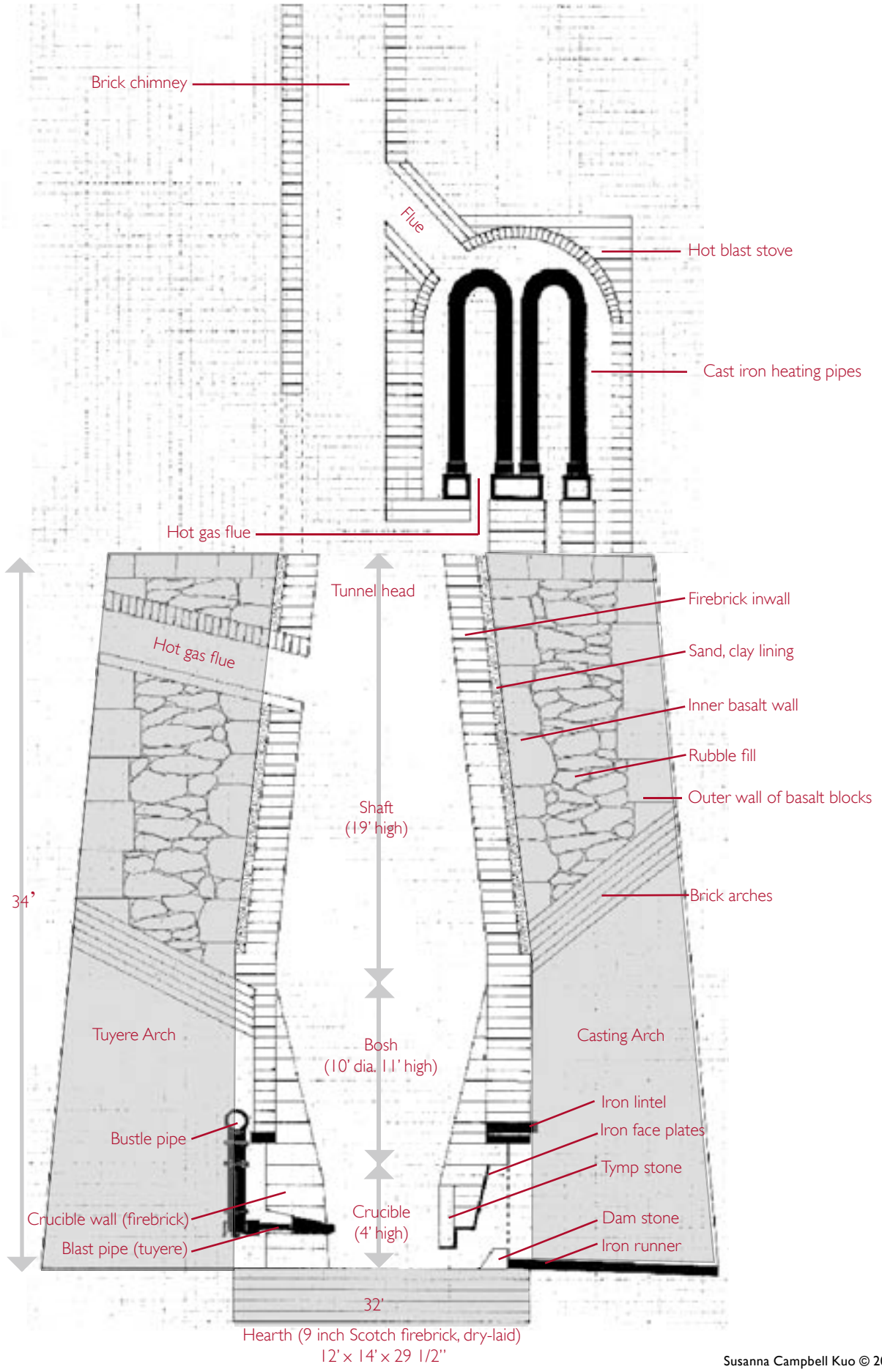
CROSS SECTION OF HEARTH



CROSS SECTION THROUGH CASTING ARCH

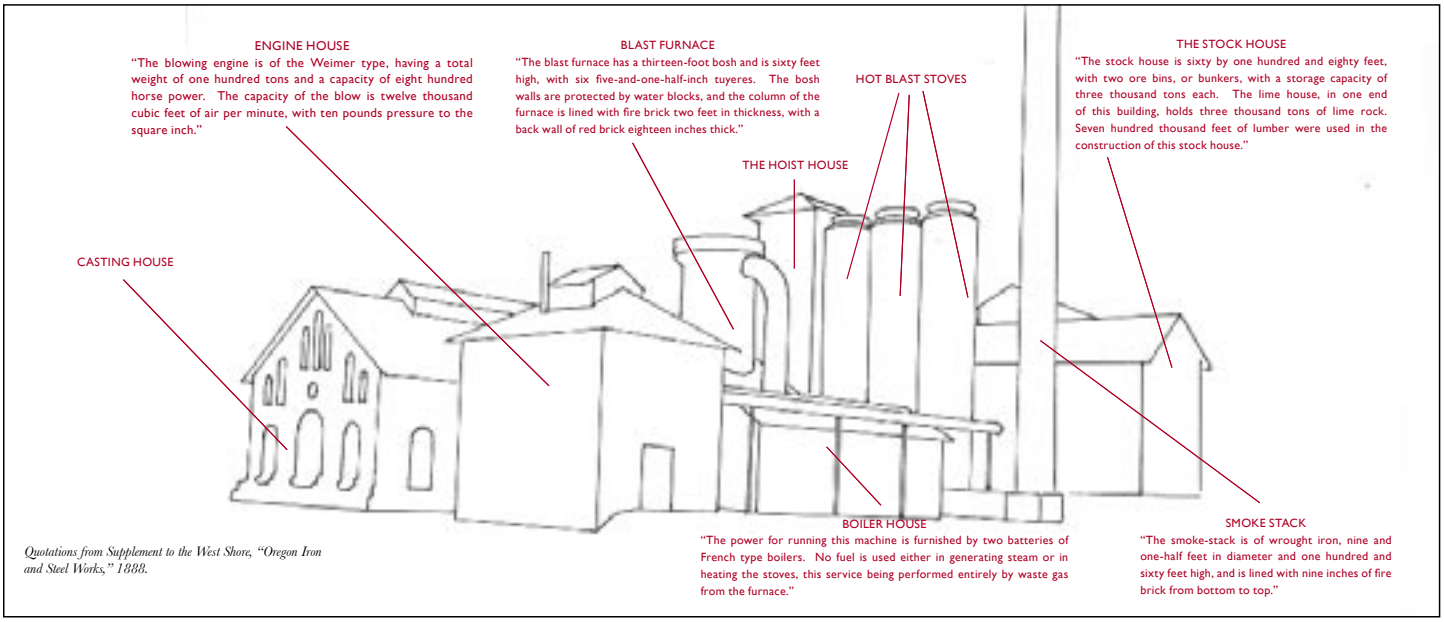


Second Furnace

Years of operation: 1888-1894

Built in 1887-88 by the Oregon Iron & Steel Company
- Fifty-ton furnace, 60 feet high
- Modeled on the hard-driving furnaces developed by Andrew Carnegie
- Iron clad cupola
- Blast system: steam-powered hot blast; two batteries of French boilers; a Weimar blowing engine; three Siemens regenerative stoves for heating the blast; six tuyeres (blast pipes)

Oregon Iron & Steel Company, second furnace, c. 1890 *Courtesy of the Lake Oswego Public Library*



Graphic Design/ Corinna Campbell-Sack