Figure 3. Log burning furnace.

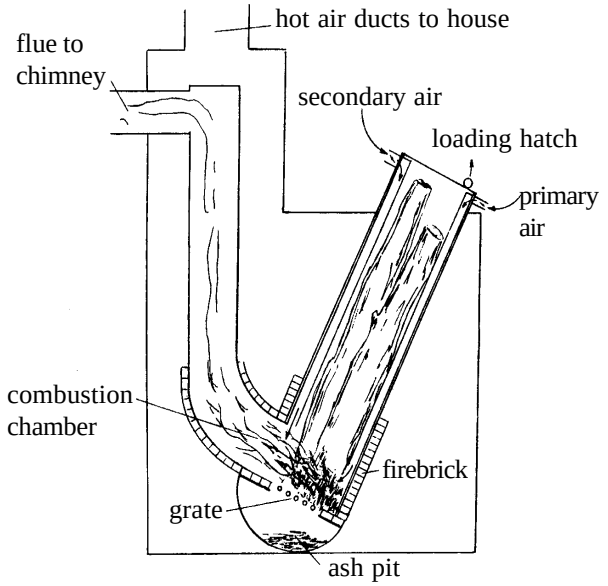

Figure 4 shows a self-feeding wood furnace designed at the University of Maine. Characterized by improved air and temperature controls, this furnace achieves particularly high burning efficiencies.

Wood-burner/thermal-storage units are designed to burn wood at efficient high temperatures for short periods of time. Heat is stored in insulated water tanks or rock storage bins and used as needed to heat the house. An advantage of this system is that the furnace does not need to run continuously, perhaps only every 2 or 3 days. The burner and storage unit are usually located outside of the house with pipes or ducts connected to the house's heat distribution system (Figure 5).

Furnaces can be thermostatically controlled. When heat is demanded by the thermostat, the air supplies are fully opened so that the fire will burn at a high rate. The furnace is equipped with a blower that circulates the heat throughout the home.

A wood furnace requires more maintenance than a gas or oil burning furnace. You must remove and clean the chimney periodically to cut down on the accumulation of soot and creosote.

This information first appeared as CIS 482 and was part of the *Wood as a Fuel* Series.

About the Author: *Roy Taylor* is a former Extension Educator - Agricultural Engineering and Professor at the University of Idaho.

Figure 5. Wood-burner/thermal storage unit.

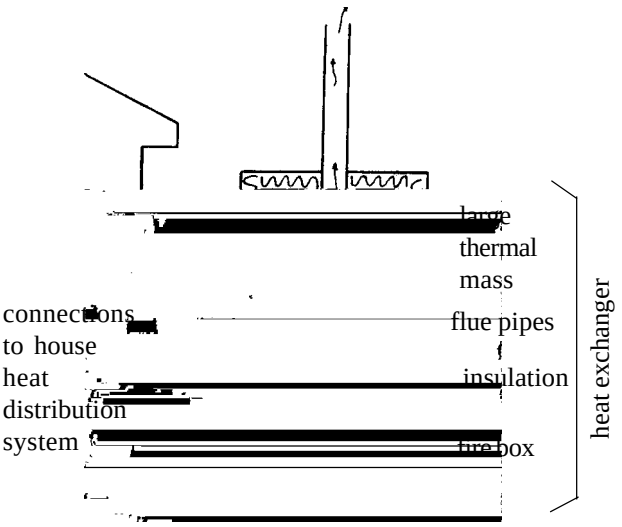

Figure 4. High efficiency stick-burning furnace.