

"Made It Myself" Wood Stoves, Furnaces



Wood Burning Stoves Made from Truck Rims

"It was cheap to build and will outlast any barrel stove by 10 to 20 years," says Eric Thompson about the wood-burning "pot belly" stove he made by welding together three truck rims stacked on top of each other. His neighbor Chris Aman made a similar five-rim stove (shown on right).

The two top rims on Thompson's stove contain the firebox which accommodates logs up to 10 in. in dia. and 20 in. long. The bottom rim contains the ashpit. There are hinged doors in both the firebox and ashpit, and between them a grate which takes advantage of the original lug bolt holes. The burner has an oval stove pipe and stands on legs made from angle iron.

Thompson uses the stove to provide total heat for his two-bay shop. He says he got the "truck rim" stove idea from a friend who made a similar stove from old snap-ring type truck wheels.

"I was looking for an inexpensive way to make a shop stove. Those 55 gal. drum stoves are easy to build but they're made of light metal and don't last very long. Truck rims, on the other hand, are made of heat resistant, high carbon steel. I don't see them ever burning out in my lifetime," says Thompson.

His stove is made completely from scrap, including the 8.75 x 24.5 truck rims. "They had some cracks in them, which I welded shut. My only cost was for welding rod. It only took me about 45 hours to build the entire stove."

To round off the rims and make it easier to fit them together, Thompson cut a 3-in. wide strip off the top edge of the ash pit rim and the top firebox rim.

To make the firebox, he welded two of the rims "deep sides" together, plating and plugging all lug bolt and tire stem holes on the top rim. Then, he turned the bottom rim over and welded it to the bottom of the lower firebox rim, making sure the 8 lug bolt

holes from both rims were lined up to accommodate a removable 9 1/2 in. dia. grate which sets over the holes. Thompson made the grate from 3/4 in. plate steel, cutting 8 holes in it to match the lug bolt holes.

Opening and closing the ashpit door provides adequate draft control, says Thompson. "The fire roars with the door open, and with the door closed there's just enough air leak to let the fire simmer."

A cast iron door, removed from an old air tight wood stove, serves as the firebox door. Thompson fitted and hinged the door to a rectangular frame made from 1/4 x 2 in. strap steel. He then cut an identically-sized rectangle out of the firebox's side and welded in the door frame.

According to Thompson, a couple pieces of wood will burn in the stove for 3 or 4 hours. "If I fill the firebox up at 7 p.m., there will still be a bed of coals in the morning to start another fire."

Thompson's neighbor, Chris Aman, who runs a small welding and fabricating business, built a similar but larger stove patterned after Thompson's. Aman's shop stove is 5 rims tall with the top rim serving as a smoke chamber. Aman removed all of the centers from the spacer rims except for the rim that's next to the top, which serves as the bottom of the smoke chamber.

"Aman's ashpit and grate are identical to mine," notes Thompson. "His stove is bigger, yet takes up no more floor space and heats a large workshop. Aman equipped his with fancier draft controls and he added the smoke chamber on top which causes smoke to exit more slowly to radiate more heat before it leaves the stove. Smoke moves into the chamber from the firebox, then to the back of the stove and out."

Contact: FARM SHOW Followup, Eric Thompson, R.D. No. 2, Box 116A, Ovid, N.Y. 14521 (ph 607 869-5330).

Shop Stove Made From Water Heater

"When we decided to cut costs by building a wood-fired shop heater, we looked at many different ways of making our own. We finally decided to use an old discarded 80-gal. hot water heater," says Lonnie Erbes, Colfax, N. Dak.

"We cut a lid out of the top of the heater so we can load big logs down into the heater. We installed a grate towards the bottom of the heater made out of 1-in. dia. steel tubes that run all the way through the heater. An

old fan is attached to a housing at one end of the grate tubes. It blows air through the grate to keep it from burning up, and circulates hot air.

"We enclosed the entire heater in a square housing made with sheet metal and 1/2-in. angle iron. We attached a large furnace fan to the rear of the housing. It blows air up and out the top of the housing. A large ceiling fan above the heater circulates the air.

"Total cost was only about \$60. It works

"Bottom Burn" Outside Furnace

Eugene Cauffman, Claypool, Ind., built his first outside furnace in 1981. It worked so well it soon came on the market, manufactured by Sure Flame Inc., Huntington, Ind. It was the first wood furnace of its kind to be UL-approved.

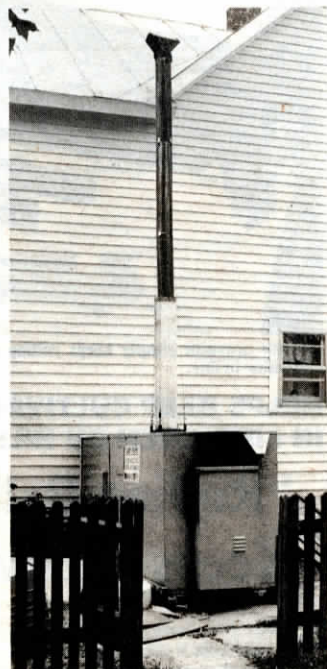
"That original outside furnace was safe, clean, had a large capacity, and could be automatically controlled. But I thought the efficiency could be improved and that creosote could be eliminated. That's why I developed this latest new furnace that produces virtually no smoke or creosote, even with green wood," says Cauffman.

The new gasifier stove is unusual in that it turns wood into combustible gases that burn at the bottom of the stove, leaving only a small amount of powdery ash at the bottom of the stove.

"People shake their heads in amazement when they see the fire chamber filled with blue flames. When the stove is burning, it burns as clean as natural gas. It burns 1/3 to 1/2 less wood than a conventionally built stove to produce the same amount of heat and it has completely solved the problem of creosote," says Cauffman.

A blower forces air downward through wood stacked on the grate in the 22 by 26-in. firebox. As the stove heats up, flames shoot downward into a fire chamber below the grate. A second fan force-feeds combustion air directly into the fire chamber. Smoke passing downward through the hot coals at the bottom of the logs is gasified, and burns up in the fire chamber. The superheated fire leaves almost no ash to clean out. Warm air leaving the fire chamber passes through a heat exchanger, which then carries warmed air into the house.

"Like the original Sure-Flame furnace, it



sits outside the home and only the hot and cold air ducts and thermostat wires enter the living space," says Cauffman, noting that Sure Flame, Inc., is in the process of finishing testing on final prototypes. Both forced air and hot water 200,000 btu models will be available for a price of around \$2,000.

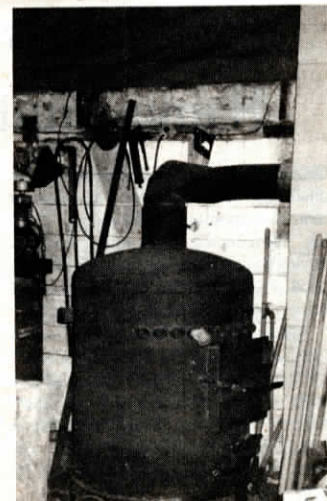
For more information, contact: FARM SHOW Followup, Eugene Cauffman, P.O. Box 94, Claypool, Ind. 46510 (ph 219 566-2549).

"Blow-Through" Barn Stove

"It heats better than any wood stove I've ever seen. Easily heats my 26 by 26 ft. barn with a 19-ft. ceiling," says Frank Battiatto, Salem, N.J. about his made-it-myself stove.

"I built the body of the stove with an old 56 1/2-in. dia., 8-ft. long steam tank that's got 1/2-in. thick sidewalls. I cut the tank down to 5 1/2 ft. It stands on 10 1/2-in. long legs.

"The best feature of this stove are the nine pipes that run all the way through the tank,



near the top of the stove. Hot air from the firebox rises through the pipes on its way out the chimney. A 110-volt fan, which attaches to the back of the stove, blows air through the pipes and into the shop.

"I'm currently working on a design to burn waste oil in the stove."

Contact: FARM SHOW Followup, Frank Battiatto, Quaker Neck Road, Salem, N.J. 08079.



extremely well. Four or five logs will burn all day."

Contact: FARM SHOW Followup, Lonnie Erbes, Colfax, N. Dak. 58018.