

Just when some wood-burners thought they knew it all (a foolish notion!), along comes the top-burn fire. It promises more heat from less fuelwood, a safer burn and a bare minimum of pollutants released into the air we breathe.

I call it "the upside-down fire" because, starting with the biggest logs on the bottom, you graduate upwards to the smallest pieces of kindling and wood shavings or bits of paper. It is then lit off from the top and burns downward.

Hardly a new concept, it originated in Europe hundreds of years ago as the fire-building technique of choice for the massive tile stoves widely in use. This method produces a super-clean burn. The stove's masonry mass soaks up the heat, releasing it slowly into the living space for many hours from just one firing.

Tile stoves, or masonry heaters, have become popular again in Europe. In the U.S., a growing number of skilled stone masons are now building these heaters on site in new and remodeled homes.

But the top-burn is not limited to masonry stoves. It is being employed in conventional fireplaces and stoves, too, and in modular masonry refractory fireplaces.

The science and art of wood-burning are as old as mankind. It is doubtful anything can erase from our ancestral memory the pleasure of building a fire, partaking of this warmth and watching it burn.

Picture those early cave-dwellers squatted by the fire on a winter's night, tolerating the smoky air because of the warmth the Fire God sends out from the blazing fire and heated rock walls.

The science of woodburning was given new impetus in this century in the 70's when wood heat suddenly came back in style. A few years later there was a hue and cry about the dangers of creosote build-up on flue walls, soon to be followed by urgent inquiry into the environmental and health hazards of wood smoke.

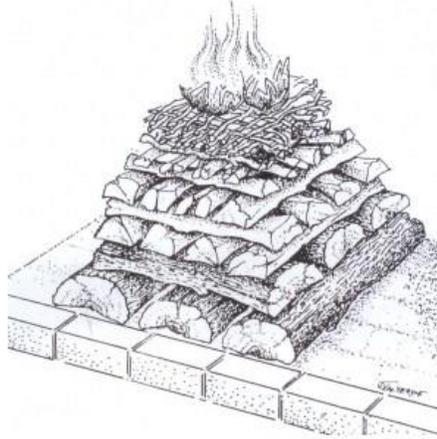
The top-burn fire addresses all of these concerns. The principle at work here is that as the bottom logs heat up and start to release their volatiles, there is enough heat and flame to ignite them.

Otherwise, those first gases driven out of the wood travel unburned up the stack, condensing out the highly-flammable creosote onto flue walls and spewing particulate matter into the environment.

Creosote burn as hot as coal, so its escape from the firebox is a loss of potential heat for the house. In the top-burn fire, all creosote burns up in the stove or fireplace.

THE UPSIDE-DOWN FIRE

Centuries old, this European fire-building method is the latest word on safer, more efficient woodburning. Wood-heat buffs of the world, unite in adopting it as your own!



The most common mistake in building up the top-burn fire is not graduating to fine enough kindling. The best light-off material for the topmost layer is cedar shavings, but a bit of newspaper will do.

Drawing by Jost Valverde, Courtesy Sleepy Hollow Chimney Supply

Fred Schukal, a long-time sweep and owner-manager of Sleepy Hollow Chimney Supply in Brentwood, New York, quickly adopted the top-burn method for all types of fireplaces. He says, "We should teach it to our customers and preach it like the gospel!"

He and Chris Prior demonstrate it untiringly at chimney sweep gatherings: Place the largest pieces of wood at the bottom. For the best coalbed, use dense hardwoods...this is the perfect place for those impossible gnarled pieces and crotches. Graduate to layers of smaller, softer wood in crisscross crib fashion as you build it higher. The last layer should be the smallest possible diameter kindling. Place a few crumples of newspaper on top, or, better still, use a handful of cedar shavings.

Chris, a mason and chimney sweep by trade, buys a bundle of cedar shakes each season and with his jackknife works up a little pile of shavings for each fire he builds.

Refueling is not as critical a process as the initial laying of the fire. Add more wood when the crib of glowing coals falls in on itself. As long as you have a good bed of coals, the firebox will be hot enough to heat up and ignite fresh fuel.

This makes a dramatic difference in conventional fireplaces, producing a long, clean burn and usually solving any start-up smoking problems.

Everett, Washington mason Jerry Frisch lays a top-burn fire in the masonry heaters he designs and builds. His is a more casual approach, but it works. He starts with big chunks of seasoned Douglas Fir and places small strips of newspaper strategically here and there. Then he stacks on smaller pieces of wood, topping it all off with kindling and more pieces of paper.

Early on in my own top-burn education, I carefully constructed one in a friend's fireplace insert. Flames traveled dutifully downward and the fire burned long into the night without further ado. (My friend was mightily impressed.)

Look, no smoke!

A top-burn fire produces little or no smoke. Presto, there is a drastic reduction of particulate matter released into the air and virtually no creosote builds up on the flue walls to pose a fire hazard.

Masonry heaters, already noted for their clean burn, now emit almost no smoke at all in that once-smoky initial 10 minutes or so of firing.

I found I had been doing a variation of the top-burn for years in my old Fisher stove but I have refined my technique of late. The fire takes longer to build, but it burns better and needs less attention. Jeff, my sweep, annually brushes down no more than a cupful of creosote.

A top-burn bonfire

Chris built a glorious top-burn bonfire at his state chimney sweep guild's summer '93 workshop. Four feet square at the base and five feet high, it burned all night. (An item for *the Guinness Book of Records*?)

As the word spreads, we may soon find Cub Scout and Brownie leaders teaching this skill to their young recruits.

Hopefully, all conscientious wood burners will eventually up-grade to masonry heaters, refractory fireplaces and hi-tech EPA-certified stoves and *always* do a top burn.

In the meantime, building top-burn fires in those old-generation conventional fireplaces and stoves will produce cleaner, more efficient burns helping us safeguard our families and do our part to renew this weary and abused old world.

-Jay Hensley