

and more efficient fire.

Fire down below

THANKS TO THEIR GREAT GRATE DESIGN, BROTHERS MICAH AND JARED RICHARD ARE KEEPING FIREPLACES HOTTER THAN EVER

BY MARC SILVESTRINI
REPUBLICAN-AMERICAN

LITCHFIELD

Everything about Jesse and Roseann Richard's new home in Montgomery Center, a picturesque little town in northern Vermont, just below the Canadian border, was perfect.

Except for one thing.

The fireplace just didn't draw right. Something was wrong with its basic design. Every time someone attempted to light a fire, the house would immediately fill with smoke.

The problem persisted until Micah and Jared, Jesse and Roseann's two sons, took a long,

hard look and realized the root of the problem was not with the fireplace, but with the grate that held the logs. The grate's design prevented the logs from being stacked in the most efficient position, directly against the back wall of the fireplace.

That's when the brothers, then 23 and 18, began experimenting with different designs, seeking to build a grate that would burn wood hotter and more efficiently, while eliminating the problem of smoke escaping into the house.

A few years and many prototypes later, they arrived at a design that was so effective, they patented it and built a small, two-person business around it.

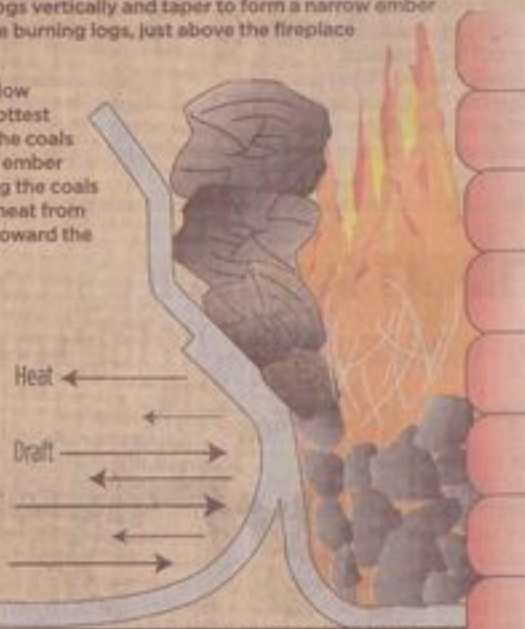
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How it works

The grates stack logs vertically and taper to form a narrow ember chamber under the burning logs, just above the fireplace floor.

This allows air to flow directly into the hottest part of the fire — the coals and embers in the ember chamber — fanning the coals and radiating the heat from the embers back toward the living area.

All other grates have a space between the bottom of the grate and the fireplace floor, which enables drafts to flow from beneath the fire, carrying most of the heat from the embers straight up and out the chimney.



CURTIS KRAVIT/REPUBLICAN-AMERICAN

VERTICAL: Sales are simply 'grate'

Continued from 1D

Paint it black

Micah, now 33, and Jared, 28, own and operate a small business called The Grate Wall of Fire LLC. The brothers fabricate and market their patented fireplace grates from a location within another Richard family business, Walnut Hill Greenhouse on Wheeler Road.

Each grate is made from bars of hot-rolled steel that have been dipped in black paint. The brothers sell the grates in 12 sizes, ranging from an 11-inch model with three vertical bars to hold the wood, to a 31-inch model that has seven vertical bars. The grates are available in three heights, 12, 15 and 19 inches.

The vertical bars can be topped with any of 15 types of decorative finials.

The grates stack logs vertically, rather than horizontally, and taper to form a narrow ember chamber under the burning logs, just above the fireplace floor.

The design allows air to flow directly into the hottest part of the fire — the coals and embers in the ember chamber — fanning the coals and radiating the heat from the embers back toward the living area.

All other grates have a space between the bottom of the grate and the fireplace floor, which enables drafts to flow from beneath the fire, carrying most of the heat from the embers straight up the flue and out the chimney.

Another advantage of the Richards' design is that smoke is kept at the very back of the firebox and, in most cases, is eliminated from the living area.

Since the design exposes more coals and embers to air and allows the draft to radiate the heat from the ember chamber to the living quarters more efficiently, fires built with Great Wall grates can generate twice the heat of fires built with other grates, while only burning half as much firewood, the brothers say.

"I can now use the fireplace to help heat (about) 3,000 square feet of my passive solar home in Colorado," a customer named Mitch Allen wrote in a



The Grate Wall of Fire LLC

Address: 219 Wheeler Road, Litchfield

Phone: (860) 496-7907 or 1-800-274-7364

Web site: www.gratewalloffire.com

Hours: Tuesday-Saturday, 8 a.m. to 5 p.m.

Main product: Fireplace grates in 12 widths and three heights.

Prices: \$69 to \$135, depending on grate size.

STEVEN VALENTI/REPUBLICAN-AMERICAN

A circular outdoor fire grate is one of the latest additions to The Grate Wall of Fire's product line.

recent e-mail. "It is amazing how much less wood I am burning this winter and how warm the house is."

Expanding product line

Ten years ago, the brothers began field testing their grates by giving them to friends and family members. Soon thereafter, they discovered they had invented a product that people wanted to buy.

By 1998 the brothers were selling a couple of hundred grates per year. Eight years later, in 2006, they sold more than 3,500.

The success of the grates enabled the brothers to turn their operation into a full-time venture about three years ago.

They've even added two new entries to their product line:

- a solid metal fireback, a 3/8-inch-thick metal plate that can be inserted between the grate and the back wall of any fireplace with deteriorating masonry;

- a circular, self-feeding, three-piece firepot for use outdoors at family outings, barbecues or at camp sites. The firepot includes steel legs, a steel table top and a vertical grate that rests on the table.

The next product the brothers are thinking about introducing is a line of fireplace tools, Jared said.

Micah estimates the brothers have sold about 25,000 grates since they first started making them 10 years ago in a workshop toward the rear of the

nursery. About half of their customers found them on the Internet. The other half are mostly local folks who heard about the grates through friends, or people who have seen them advertised in newspapers and magazines or demonstrated at the Goshen or Bethlehem fairs.

A few years ago, Jesse Richard hung a large map of the 48 contiguous states and began inserting stick pins into the appropriate state every time his sons sold a grate to a new customer.

Today there is hardly room for another pin in any of the New England states or in New York, New Jersey or Pennsylvania. In fact, each of the 48 states has at least a few pins in it; the lone exception is North Dakota. The grates have also been sold to customers in foreign countries such as Mexico, Grenada and Norway, Jared said.

One of the pins represents William Wright, an attorney in Richmond, Va. Wright said he bought a grate from the Richard brothers a few years ago in an attempt to reduce the soot and smoke produced by the fireplace in his new home.

"I had to get the problem fixed, because my wife insisted we use the fireplace," he said. "So when I saw one of their ads, I picked up the phone and called them.

"I was completely skeptical at first; there was no way I thought the grate would do the things they claimed ..." Wright continued. "But it worked, just like they said it would. It not only gives us a pretty good fire, but it also keeps the house pretty much smoke free."

Dr. Michael Betten, a retired physician from Bozrah, said his grate not only performs as advertised, it is virtually indestructible.

"I used to have to replace my grate every two or three years, even though I always tried to buy the heaviest, most durable-looking grate I could find," he said. Then, about seven or eight years ago, he bought a grate from the Richard brothers.

"I've never had to buy another grate, never had to replace it," Betten said. "It hasn't warped, it hasn't flaked. It looks as good today as the day I bought it."