

## Mobile Sauna Made From Horse Trailer

When you're inside the mobile sauna Blaise Johnson built, you can't tell there's anything unusual about it. But from the outside, it still looks like a regular old horse trailer.

The cedar-lined horse trailer fired by a wood stove was a gift to his brother. It turned out so well that Johnson hated to see it go down the road.

"My brother Wes lives in northern Minnesota and wished he had a sauna," says Johnson. "I thought I'd build one, and the horse trailer was the perfect size for two people."

The horse trailer had been sitting unused at a friend's place for several years. When Johnson asked about it, his neighbor told him he could have it at no cost.

"I wanted it to still look like a horse trailer when I was done," says Johnson. "The plexiglass windows were weather checked, and it needed some body work. I used Bondo in places, took a panel off an old Vermeer baler and welded it into the window spaces and used thin gauged steel everywhere else a patch was needed."

He insulated the interior with blue foam board on flat surfaces and foil-covered insulation on curved areas. He then covered it all with cedar picket fence boards that he bought new.

"I used a brad nailer to attach the cedar to the plastic and the studs," says Johnson. "The seats were made out of old cedar 2 by 6's I had laying around."

He fabricated the stove out of an old 30-lb. propane tank and welded a section of field disc to it for a pedestal base. It sits in the curved nose of the trailer with smoke piped out the roof.

Johnson installed a heat shield around the stove. He screwed 1-in. electric conduit spacers to the cedar before attaching the



**Horse trailer sauna interior with cedar and corrugated steel walls.**

corrugated steel to them.

Johnson made hardware for the sauna out of horseshoes. He used them for a sign on the outside, clothes hooks on the inside, and for a sliding door latch that can be accessed from the interior and exterior.

Interior lighting is provided by solar-powered LEDs Johnson picked up at Harbor Freight. He painted the exterior in Farmall colors, as the red matched his brother's red pickup.

"It was a fun project, and I kind of regretted sending it down the road," says Johnson.

He admits it may not be the last mobile sauna he builds. "A couple of neighbors have already found horse trailers for sale on Facebook Marketplace," says Johnson.

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**Phillips dedicated months of research to developing an eco-friendly way to separate hemp fibers from the hurd without harsh chemicals.**

## Montana Farmer Building "Hempcrete" House

Kim Phillips gained national recognition in 2018 for winning the right to irrigate her hemp crop with federally-sourced water. Today, the Montana hemp farmer is making headlines for building a home entirely out of hemp fiber.

Hemp is an eco-friendly building material that repels water, making it naturally mold-resistant and able to hold up against the elements. "Hempcrete" is made by mixing the plant's tough, woody interior (known as the hurd) with a mix of water and lime.

Phillips purchased a century-old home in Butte, Mont., in 2017. She stripped it down to the studs before starting the reconstruction process.

Her goal throughout the project was to avoid buying outside building materials. Today, the back and south walls of her home are made from hempcrete 16 in. thick, which provides ample insulation against Montana weather.

Not all hemp works for construction, as different varieties vary in overall strength. Likewise, the processing method makes an impact. Phillips dedicated months of research to developing an eco-friendly way to separate hemp fibers from the hurd without harsh chemicals. She believes her discovery has widespread appeal and is working to advocate

for it as a mainstream building material.

"I love the natural feel of houses made from hempcrete," she says. "Even though my house is not yet complete, I'm currently living in it while I finish the renovation. I have installed radiant floor heat which keeps the temperature throughout more consistent and reduces heating costs. I think knowing it continues to absorb and store CO2 into the walls is one of the best things."

Even so, she acknowledges that challenges remain for building with hemp. Says Phillips, "Sourcing hemp hurd of the quality for building is still difficult; acquiring the knowledge for the best type of build isn't easy. It took me nearly a year to source my hemp due to the government denying me the ability to water my hemp and therefore killing my crop in 2017."

Today, Phillips manages Plan-It Hemp, an advocacy group working to promote the use of industrial hemp in environmentally-responsible ways. She continues to work on her home and remains optimistic about hempcrete's potential for construction projects.

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**It took Baber a year to plan, engineer and design the folding loom. That included time building mock-up models to test out his plans.**

## World's Only Folding Floor Loom

The custom-designed Rio Grande Style Folding Loom is hand-built by Dave Baber, Southwestern Wood Design.

"Molly Manzanares with Tierra Wools asked me to build a large floor loom," recalls Baber. "I asked if anyone had made a large one that could be moved through a doorway. Standard designs have to be knocked down and disassembled to move. Everything has to be taken apart."

Baber's loom has a 40-in. weaving width and can hold more than 15 yds. of warp. Set up for weaving, it has a 57 in. width, a 52 1/2 in. depth and stands 76 in. tall. Unlike any other loom known on the market, it can be folded into a transport depth of only 33 1/2 in., narrow enough to slide through a standard doorway. Designing a foldable loom required a deeper understanding of weaving mechanics, if not weaving itself.

It took him a year to plan, engineer and design the folding loom. That included time building mock-up models to test out his plans. The transition is made possible by an overhead beater and a back that folds

forward.

"Once I had a functional model, I started building it," says Baber. "Most of it was made from Douglas fir. I made all the reels and other components myself, except for the cogwheels. A local metal fabricator used a laser cutter to hand cut cog wheels out of 3/8-in. steel."

When he finished, it worked exactly as he hoped. "Molly couldn't believe it," says Baber.

The Rio Grande Folding Loom is priced at \$2,788. While this was the most challenging loom he had built, it isn't the only one. He builds several traditional designs from lap looms (they start at \$25) to a smaller Rio Grande Loom (\$2,335).

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**Gray builds the clock frames out of rebar and then adds purchased clock parts. To get the pendulum length and timing right, he found a professional who helps set the clocks.**

## His Classy Clocks Are Made Of Rebar

With their classy design and polished appearance, it's easy to miss the fact that Thomas Gray's grandfather clock frames are made out of ordinary steel rebar. "I saw a clock made out of metal and thought I could do the same thing using rebar with stainless steel across the back," he says.

He used a wire wheel to shine the rebar to create a rich, blackish tone. Each of the four clocks he made for himself and his family is different with square or round steel accent pieces. They range from 7 to 8 ft. and are

quite heavy.

Gray builds the clock frames and then adds purchased clock parts. To get the pendulum length and timing right he found a professional to set the clocks.

The Nebraskan says he's not interested in making grandfather clocks to sell. But he finds satisfaction in turning common rebar into a frame for a classic timepiece.

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