



Riding in winter is no problem for Richard Thanner, who converted a 2-wheeled, 10-speed bike to 3 wheels.

Off-Road 3-Wheel Bicycle

"I'm 78 years old and I get a little uneasy riding a 2-wheel bike on wood trails. A couple years ago I decided to convert a 2-wheeled 10-speed bike to 3 wheels," says Richard Thanner, East Troy, Wis.

"I took the standard rear wheel off the frame, saving the wheel in case I ever need to convert back to 2 wheels.

"I equipped it with a knob with free wheel sprockets, attaching a sprocket at the opposite side of the knob. A limited slip rear axle is installed, which is often used on go carts. I also installed a disk brake from an old lawn tractor.

"I use this 3-wheeler daily for exercise at modest speeds. A big plus for me is that I can now ride safely in winter as it's no longer a problem bicycling on ice and snow."



Two separate chains are used to drive bike's limited slip rear axle.

Contact: FARM SHOW Followup, Richard Thanner, W. 4878 Rice Rd., East Troy, Wis. 53120.



Green roofs keep buildings warmer in the winter and cooler in the summer. They should last at least three times longer and provide heating and cooling benefits.

Green Roofs Catching On Fast

Why install 15-year shingles when you can grow a green roof that will last a lifetime? The idea of laying down earth on a roof and planting drought and cold tolerant plants is catching on fast across North America.

"You can walk into any large hardware store in Norway or other northern European cities and find all the components you need for a green roof," says Elisabeth Ryan, president, Kestrel Design Group. Ryan's Minnesota-based company has designed and installed green roofs on large commercial and municipal buildings like the recently completed Minneapolis Library. She gets many inquiries from livestock owners interested in the concept.

"Green roofs keep buildings warmer in the winter and cooler in the summer," she explains. "The plants that grow on them evapotranspire, cooling the area underneath. That's why they are so valuable to city buildings."

How much do they help? One study of the Minneapolis Library roof recorded 90° highs while a traditional commercial building roof registered 170°. In studies of other buildings, sound levels have been reduced as much as 40 decibels with the addition of a green roof.

Another advantage to green roofs is they absorb light rainfalls. This is important for cities wanting to reduce runoff.

Heavy duty plastic and rubber membranes are laid down over the roof surface. A felt pad is often laid over that to hold the soil media in place. Plants, such as sedum, that thrive on thinner soils and minimal nutrients, are added. Ryan used a variety of native

plants on the library roof to provide habitat for birds, bees and other insects.

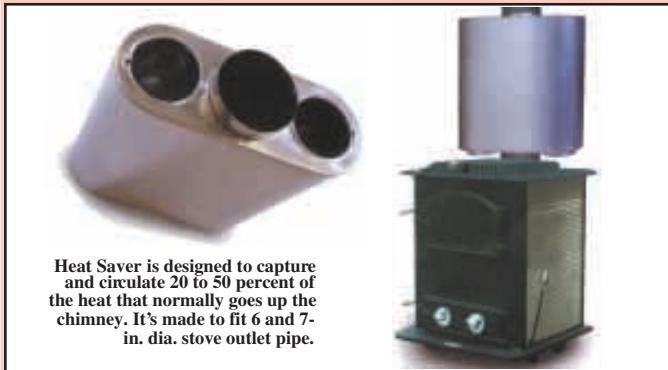
Ryan has also used rolls of special sod that contain desirable plants. For pitched roofs with more than a 3-ft. in 12-ft. incline, she advises using a system of baffles to keep soil media and plants from shifting.

Linda Velazquez, publisher of Greenroofs.com, an industry Web resource, says green roof popularity is skyrocketing. She estimates there are around 1,000 projects covering some 9 million sq. ft. currently underway in the U.S.

Canada is a leader in adoption of green roofs with Toronto, Ontario home to Green Roofs for Healthy Cities, the industry association for the U.S. and Canada.

Ryan advises people interested in installing a green roof to contact Greenroofs.com for information. The cost of a green roof is \$8 to \$10 per sq. ft. compared to \$2 to \$3 per sq. ft. for 15-year asphalt shingles. But the green roof should last at least three times longer and provide heating and cooling benefits. A 50-year-old green roof in London was recently taken down and the underlying membrane was in perfect condition.

Contact: FARM SHOW Followup, Greenroofs.com, LLC, 3449 Lakewind Way, Alpharetta, Georgia 30005 (ph 770 772-7334; toll free and fax 888 477-1326; www.greenroofs.com) or contact Green Roofs for Healthy Cities, 406 King Street East, Toronto, Ontario, Canada M5A 1L4 (ph 416 971-4494; fax 416 971-9844; www.greenroofs.org).



Heat Saver is designed to capture and circulate 20 to 50 percent of the heat that normally goes up the chimney. It's made to fit 6 and 7-in. dia. stove outlet pipe.

"No Fan" Woodstove Heat Saver

Instead of losing heat up the chimney, the Heat Saver captures and circulates the heat back into the room - without any outside power source.

Designer Gideon Fisher of Myerstown, Penn., says it bothered him to lose so much heat from his woodstove. But he didn't want to use electricity to capture it.

He experimented for a couple of years on his own woodstove and put the Heat Saver on the market last year.

The 24-in. long unit has pipe ends that fit between the stove and pipe, held in place with a few screws.

Hot air circulates through two vertical 5-in. tubes on each side of the stainless steel shell. "Because the tubes are vertical, I don't need a fan," Fisher says. "Heat rises."

A baffle inside the unit spreads out the heat. Fisher estimates that the Heat Saver captures 20 to 50 percent of the heat that normally goes up the chimney.

The Heat Saver comes in two sizes to match the stove's outlet pipe. The 6-in. version is \$139.95, weighs 10 lbs. and is 19 in. wide and 7 in. deep. The 7-in. model is slightly larger and costs \$149.95. Add \$10 for shipping and handling.

Dealer inquiries welcome.

Contact: FARM SHOW Followup, Gideon Fisher Horst Road Repair LLC, 135 Horst Rd., Myerstown, Penn. 17067 (ph 717 949-2539).

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