



Keith Weifenbach uses good quality cattle panels and zip ties to make strong snow fences that won't blow down.

A Snow Fence That Won't Blow Down

"New snow fence is so flimsy that it easily tears in the winter winds. To make it stronger, attach it to good quality cattle panels using zip ties," says Keith Weifenbach, Cedar Falls, Iowa.

"If cut and left on individual panels, you can easily store the snow fence and use it year after year. Store the snow fence standing up to save storage space. And store it in the shade to avoid damage to the plastic by ultraviolet rays."

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"Arctic Blaster" Still Going Strong After 20 Years

More than 20 years ago Alberta oilfield worker Del Botheras invented a simple device called the Arctic Blaster to thaw frozen pipes (see FARM SHOW's Vol. 17, No. 2). "I worked around equipment that froze up all the time," says Botheras. "We tried torches, hot water, and other things that weren't always very safe," says Botheras. "I figured there had to be a simple solution so I worked up a device that used a propane torch as a heat source to create dry steam."

Over the past couple decades Botheras has sold several thousand Arctic Blasters throughout the cold areas of North America. It holds about 2 gal. of water and starts generating steam in 10 min. Steam feeds out a long, braided 3/8-in. hose. Pressure is limited to 16 psi, and the temperature never exceeds 230 degrees.

"When the winter is harsh and cold, like it was in 2014, I have a tough time keeping up with orders," says Botheras. "Sales last year were 3 times a normal winter. I had companies want to buy me out but they tell me they'd have to double the price because I wasn't charging enough," Botheras says. "That rubbed me the wrong way because the product now is affordable for just about anybody. If it's twice the price, that would cut sales way down. My goal has always been to make an affordable product that people can use. Twenty years ago I was selling them for



Arctic Blaster uses a propane torch to create dry steam that thaws frozen pipes.

\$500 and now with increased costs I've had to up the price to \$850, but it's still a good investment."

Botheras says the best endorsement he ever received was from a customer in Northwest Territories. The fellow wrote "Before I got your machine we were froze up from November to May. Now I can thaw out pipes anytime during the winter and not have to worry about burning anything up in the process." Botheras says it's letters and calls like those that give him enthusiasm for the business even though he's 75 and wants to slow down sometime in the not too distant future.

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Trinity Kincaid found plans for a small, self-propelled backhoe on the internet and modified it for his rural septic service. He carries the 32-in. wide backhoe on front of his truck.



Backhoe bucket is 7 in. wide with teeth cut from leaf springs. Kincaid uses it to dig rural septic tanks and also to pick up tank lids. "You can do quite a bit with this backhoe if you're patient," he says.

Mini Backhoe Replaces Back-Breaking Shovel Work

Trinity Kincaid nicknamed his mini-backhoe "MyShovel" because of its ability to handle jobs large and small in Missouri hill country. It replaced a lot of hand digging, which he did plenty of while running his rural septic service.

"I live and work at Lake of the Ozarks, and the soil is clay and rock," he says. "I used to use a pick axe or bar to break clods loose. I even bought a small jackhammer."

Kincaid considered buying a small excavator, but he worried about finding parts for the limited production machines. He finally decided to build his own.

"I found plans for a towable backhoe on the internet and modified it," says Kincaid. "I wanted one that was self-propelled, but could get into tight spots and wouldn't require a trailer."

Kincaid based his backhoe boom on plans from www.thegreensmachines.com. He used 1/4-in. steel plate for flat stock and 0.188 thick, 2 1/2-in. square tubing for the boom arms and chassis. The bucket is 7 in. wide with teeth cut from leaf springs. Kincaid bought the metal and had it cut and sheared locally.

"Everything from the boom back is mine, including the swivel," he says.

The motor sits on an I-shaped chassis made from 2 1/2-in. tubing with 1/4-in. plate gussets. A set of hydraulic drive wheels is mounted at either end. Two vertical tubes are mounted to the rear of the chassis. The

forward one serves as a mount for control valves while the one to the rear is a mount for a removable seat.

At the front of the chassis, the boom and its hydraulic cylinder are mounted to a yoke and swivel plate fabricated from 4 pieces of 3 by 5-in., 1/2-in. thick angle iron.

"I slipped them together and bolted them in place to be sure everything dovetailed together and slid and locked like needed," says Kincaid. "Only then did I weld it together."

A hydraulic cylinder extends from the chassis center frame to an offset mount on the swivel plate, swinging the boom to the left or right. Another short cylinder mounted to the front of the chassis raises and lowers a short blade he picked up at a garage sale. It works in lieu of outriggers.

"A 5 hp Honda with a love joint to a 2 gpm hydraulic pump supplies power to the backhoe valve body and the drive wheels," says Kincaid. "The wheels on each side run in series, so fluid goes to the first wheel and then to the second and then to the valve. It's like a liquid chain."

Kincaid explains that if the wheels were moving at a high speed, one would be turning faster than the other. However, at low speeds the second wheel is providing about 200 percent traction.

Kincaid considered building a small trailer to tow the backhoe to job sites. Instead he decided to mount it on the front end of his



When Kincaid gets to the job site, he backs backhoe off the carrier and drives it to the site.

truck. He extended the frame about 3 ft., providing more than enough space for the 32-in. wide backhoe.

When he gets to the job site, he backs it off the carrier, puts the seat in place and drives it to the site of the septic tank. When the dirt is removed, he also uses the bucket to pick up lids, which can weigh as much as 180 lbs.

"You can do quite a bit with it if you're patient," he says.

What it can't do is easily break through a pipe, which Kincaid appreciates. "You'll feel the pull on the machine before it can hurt a pipe," he says.

Kincaid estimates it took him 6 mo. to build the machine, initially with 2-WD. It took another week to make it 4-WD. Plans, steel, hydraulic hoses, cylinders, engine and other components totaled about \$4,000.

Buying local and looking for deals kept costs down. "I found the wheel motors on sale for \$200 each," he recalls. "Normally they were priced at \$600. I paid only \$16 each for the wheel hubs at a surplus center, but the regular price was \$100 each."

Kincaid is more than satisfied with the investment. He has a boom that swings out with a reach of about 6 ft. and a maximum depth of about 4 ft. Each bucket is equivalent to about 3 shovels full of dirt.

"I can move a cubic yard of dirt in about 20 min.," says Kincaid. "By hand, it would take about 2 hrs."

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