

## Old Corn Crib Makes Nifty Turkey Coop

Ralph Haaff can't stand to see good stuff go to waste. So the Michigan man recycled an old corn crib into a low-cost turkey coop that's complete with an attached shed.

"I'm a disabled vet on a fixed income so I've got to watch every nickel and dime. I spent a total of only about \$100," says Haaff. "On our small farm we raise chickens, guinea hens and Kentucky Red Bourbon heritage turkeys that free range, but are put in coops when we're not home."

He saw the corn crib one day while his wife was driving him to the local V.A. center. "A farmer was ripping down his barn and two corn cribs. He already had squashed one of the cribs with his front-end loader, but the other one was still standing. I paid him \$50 for it," says Haaff.

He used a sawzall to cut off the bottom half of the 12-ft. dia. crib. Then he took the top half apart in sections, put them on a trailer, and brought them home. He nailed together two 12-ft. long 2 by 4's to make a roost located under the roof eave. A moveable ladder leans against the roost. "The turkeys can either jump up on the ladder or fly up onto the perch," says Haaff.

Before setting the crib in place he dug a

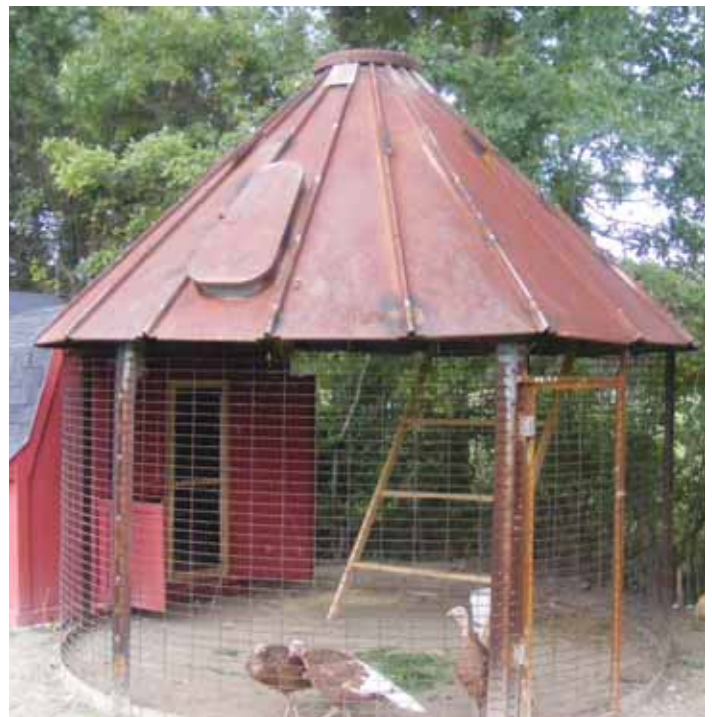
round trench and filled it with concrete in order to keep predators from digging their way in. He attached the bottom of the crib to 4-ft. lengths of rebar that he drove into the ground.

He covered the ground inside the crib with construction sand and then added a 4-in. deep layer of play sand on top. "The turkeys like digging and bathing in the sand," says Haaff. "I use a small cultivator to turn the sand over a couple of times per year and add lime to sweeten the sand."

Haaff says the sand inside the coop works much like cat litter, which makes it easy to clean up. He even made a specially designed rake to remove the manure. "The rake is curled up slightly at the sides and has 1/2-in. sq. holes in it. The clumps of manure stay in the rake while the loose sand falls through it. We use the manure in our garden.

"The entire setup has a nice, rustic look," says Haaff. "There are a lot of corn cribs in the country whose owners are happy to get rid of them for free," he adds.

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Ralph Haaff anchored the sides of crib in concrete to keep predators from burrowing in.

## Wind-Powered Air Compressor

Jeff Hoard has figured out how to use air to power his air compressor. With the help of a homemade windmill, he always has air pressure on hand to pump up tires or do a little sandblasting.

"We never run out of air," says Hoard. "We are completely off the grid, and this type of system works really well in that situation. I've used the air pressure to clean spark plugs, paint, sand, and much more. The simplicity of it makes it virtually trouble free, and it requires no electricity or gas."

Hoard's "system" consists of a salvaged 400-gal. propane tank, a worn out compressor pump, scrap from his salvage pile, and "sails" sewn by his wife Karen.

The tank, which he got for \$20, was his only out of pocket cost. Hoard notes that compressor pumps are "splash" lubricated, and if turning slowly in a light wind, lubrication is reduced.

"A 'worn-out' pump is necessary," says Hoard. "It can handle that occasional lack of lubrication, and mine has worked for more than 10 years."

The windmill arms consist of four 4-ft. lengths of 1/2-in. steel pipe welded perpendicular to a short length of pipe fabricated to serve as a hub. Hoard welded 12-in. stubs at right angles to the arms and close to the hub to anchor the wide end of the triangular sails.

"Karen used a material called 'nylon weave' for the sails," says Hoard. "It's double-sided vinyl that's used for convertible car tops and holds up well to the elements."

The hub is simply a short length of pipe threaded to match the compressor pump shaft. Virtually all compressor drive shafts are left hand threaded with a tapered shaft, noted Hoard. He designed his sails to turn counterclockwise to maintain tension on the threads.

"The hub was sized to reach the shoulder on the shaft," says Hoard. "I welded a thick washer inside the hub to end up 1/16-in. from the end of the crankshaft."

The washer allowed Hoard to install the crankshaft bolt in the end of the shaft. Tightened down against the washer, the bolt secures and centers the hub to the shaft.

No fancy bearings were used. All pivot points outside the compressor are steel to



Jeff Hoard uses a homemade windmill to compress air that's stored in a 400-gal. propane tank.

steel. The compressor with its hub and wind vanes mounts to a steel plate. A 10-in. length of 1/2-in. pipe is butt welded to the bottom rear of the steel plate. It fits loosely for easy turning in a slightly larger steel pipe welded directly to the compressor tank. A plywood tail is attached to a length of steel pipe that is also welded to the steel plate.

"A length of high pressure air hose runs from the compressor to the tank's check valve," says Hoard. "Occasionally, it has to be unwrapped."

The hose, check valve, pop-off valve and air line coupler unit was salvaged from a high power compressor when Hoard and his wife went off grid. He attached it to the propane tank.

"The 125 psi pop-off has blown many times," says Hoard. "Most of the time I keep the blades tied down because we don't really use a lot of air. However, when we need it, it's nice to have."

Hoard shares his creative scrounging ideas and projects on his DVD titled "Hillbilly Heaven" available on his website.

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New-style 18-ft. auger can reach out 28 ft. in front and 55 ft. from side to side to fill planters and grain drills.

## "Long Reach" Gravity Wagon Auger

"Today's planters and seed drills keep getting bigger, which makes them harder to fill. Our new 18-ft. Maximum Reach auger can reach out 28 ft. in front and 55 ft. from side to side to make the job much easier," says Howard Green, Market Farm Equipment Ltd., Dashwood, Ont.

The 6-in. dia. auger comes with 5-in. cupped plastic flighting, a 3-stage telescoping downspout that extends to 17 ft., a hinged cleanout door, and an electric on/off valve with remote keyfob. The auger hinges in the middle and folds for safe transport and storage.

"As far as I know it's the longest gravity wagon auger on the market," says Green. "The 18-ft. length is made possible because the auger hinges in the middle, allowing for it

to store within the length and height of most gravity boxes. Because of the extra length you don't have to move your gravity wagon as often in order to fill your planter or drill, which maximizes your planting time. Also, there's no worry about catching low wires or other obstacles during transport."

The auger's standard hopper fits gravity wagon door widths up to 38 1/2 in. An optional 60-in. hopper is available for larger door widths. Green says the auger is "priced comparable to most competitive steel augers."

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Auger folds down within the length and height of most gravity boxes.