

Freeze-Proof Hog Waterer

"I've used this design for freeze-proof waterers for 10 years with no problems," says David Ross, Henderson, Tenn., about his inexpensive and durable concrete waterers.

"We raise hogs outside so I had to come up with a way to keep waterers from freezing up.

"This waterer consists of a square concrete box with 6 in. thick walls. Outer diameter is 15 by 22 by 10 in. high. The inside compartment is 9 by 16 by 10 in. high. The water line comes up through the center and out through the sides of the concrete wall to the water cup. There's a water shut-off inside the waterer. A 100-watt lightbulb inside the compartment provides enough heat to keep the water line from freezing. When the concrete was poured, a piece of 1/2-in. galvanized pipe was placed in it to carry an electrical line to the bulb. The pipe runs straight up out the top of the waterer.

"When pouring the concrete, I left holes running out to the water pans. The holes



should be about 1 in. larger than the pipes so enough hot air will escape out the side to keep the water valves from freezing. A large flat lid over the top of the waterer keeps heat inside.

"You could make the waterer larger to accommodate more animals, or larger animals," notes Ross.

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Telescoping Hitch

"We move 4-WD 500-gal. fuel wagons around quite often to service our Deutz diesel irrigation engines. It's difficult to hitch a heavy fixed wagon tongue to your pickup when you're alone so about three years ago, we developed a telescoping hitch that makes it easy for one person to hook up," says Jeff Merwin, S.H. Merwin & Sons, Inc., Clarksburg, Calif.

"All you have to do is back within 8 in. of the tongue, telescope the tongue to hook up, secure the safety chain, then back up to latch the telescoping portion into transport position and drive away.

"I first saw the idea on an old wagon running gear, and adapted it with for my purposes, adding a spring to prevent accidental telescoping due to bouncing in transit.

"The telescoping tongue consists of a 22-in. length of 2 1/2-in. dia. pipe nested inside a 48-in. long piece of 3-in. dia. pipe. There's a 3/4-in. wide by 9-in. long slot cut in each side of the outer pipe, starting 4 in. back from the end of it. The slots accommodate a 6-in. long by 1 1/16-in. dia. pin which sticks through the inside pipe and extends out either side. The pin is 1/2 in. from the back of the inside pipe, and allows the inside pipe to slide in and out the length of the slot.

"The spring-loaded mechanism that holds the sliding pin in place consists of two 6-in. long hooks cut out of 1/2 in. thick flat steel. They mount on either side of the outer pipe and automatically latch onto the pin when the tongue is retracted. The two hooks pivot on a 5/8 by 6-in. bolt with locknut. A 2 1/2 in. coil spring holds the hooks down.

"The tongue is 5 1/2 ft. long in the transport and telescopes out to just over 6 ft."



Merwin also made a telescoping drawbar for the back of a 24-ft. Krause disk that he says makes it easy for one man to hitch a 26-ft. roller behind the disk.

"It's made of a piece of 4-in. sq. tubing slipped over 3-in. tubing. We fashioned 2-in. wedges which allow up to a foot of side sway when the drawbar is telescoped. Once you've hooked onto the roller and you back up the disk, the wedges center the drawbar into position. The drawbar is held in working position with pins on both the roller and the disk. A trailer jack mounted on the roller holds the tongue up while hitching.

"The drawbar extends about 6 ft. beyond the back of the disc which enables tight turns on headlands without binding roller and disc."

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Gooseneck Features "Totally New" Design

"My brother wanted a trailer that would haul a lot of wood or other cargo. I came up with a design that's completely different from any other trailer I've ever seen," says Jim Mitchell about his high-lift gooseneck dump trailer.

The 8 by 12 by 3 ft. box is fitted with tandem 12,000-lb. axles. It weighs 4,000 lbs. but has carried payloads of up to 8 tons without difficulty.

What's unusual about the trailer is the way it's dumped. Instead of just dumping the box, the entire rig is lifted by a cylinder on the gooseneck.

Key to success is the two-piece design of the 8-ft. long gooseneck the Potsdam, N.Y., farmer made for the rig.

The top bar of the gooseneck is made out of 6 by 8-in. tubing. It pivots at the top of the center post. A second horizontal bar, made out of 3 by 4-in. steel tubing, mounts just below the main bar. It runs from a pivoting hinge point on the center post to a sliding shuttle mechanism mounted on a framework at front of the trailer. A hydraulic cylinder mounts vertically inside the framework. When activated the cylinder pushes down on the front of the trailer, pushing upward on the gooseneck. As the gooseneck lifts, the shuttle slides in front, leveraging itself against the smaller 3 by 4-in. bar that runs back to the center post.

"The trick is to keep the center post vertical when dumping," Mitchell notes.

The trailer raises up to a maximum of 60° for dumping.



The hydraulic system is powered by a pump driven off the crankshaft pulley on the pickup.

Total investment in the trailer, including plywood sides and manually operated rear doors, was \$5,000.

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"Pasture Drag" Made From Old Truck Tires

Old truck tires hooked together make nifty pasture drags, according to South Carolina farmer Roslyn M. Galloway.

"It does a good job of leveling out cow pies and knocking down dead weeds," says Galloway.

He used 20-in. truck tires to make a 15-ft. wide drag. There are five tires in the front row of tires and four tires at the rear. The front row of tires is chained to a leveler pipe. Each tire is connected to the tires around it by steel rods. The rods in front have 6-in. dia. round steel plates bolted onto them that fit under the beads of each tire. Eye-bolts connect the rear tires to the front tires and the front tires to the chains on the leveler pipe. Clamps made from short lengths of channel iron and fastened to the eye-bolts are used to hold the beads together inside the tire.

"I use it in my pasture where I feed hay to my cows which often results in a build-up of cow pies. The drag levels the pies out so that they don't kill as much of the grass. Spreading out the manure adds a lot of nutrients - I can see a big difference after it rains. It worked so well several neigh-



bors have asked to borrow it. I used truck tires because they're heavy and widely available.

"I had been using a spike tooth drag harrow, but it was too much trouble to hook it up and it got torn up on rough ground."

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Lightweight Belly-Mounted Blade

"Works great for leveling my driveway or yard and is small enough that I can even use it inside buildings that have dirt or crushed rock floors," says Richard Cox, Franklin, Ill., who mounted a 5-ft. wide, belly-mount blade on his 1961 Allis-Chalmers D-14 tractor.

Cox fashioned the blade out of a 3-pt.

blade he already had. Part of the blade mounting system he used came off an old horse-drawn road grader. The blade is supported by a cable that runs over a pair of pulleys and is connected to the tractor's 2-pt. lift arms. Cox raises the blade by operating the control lever for the lift arms. He can rotate the blade left or right by turning

a lever equipped with a cam. Blade pitch can be manually adjusted by turning a threaded crank mounted behind the blade.

"It takes only a few minutes to put the blade on or off," notes Cox.

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