



Werner Wagon Works of Horton, Kan., builds big "logging wheels" that measure 8 ft. in diameter and weigh 500 to 600 lbs.

## They Build Giant "Logging Wheels"

Back in the early 1900's, horse-pulled logging carts equipped with giant wooden wheels that measured up to 12 ft. in diameter were often used to drag big logs out of swampy areas.

Werner Wagon Works of Horton, Kan., still builds the big "logging wheels". FARM SHOW recently spotted their ad in Draft Horse Journal. "We specialize in wood wagons and horse drawn vehicles, so building these logging wheels is natural for us," says owner Don Werner. "Some horse people still like them because they don't tear up the ground like dozers do. In a lot of cases it's the only way they can haul logs out of swamps without getting stuck. They use two or four horses depending on the size of the log. Our standard wheels measure 8 ft. in diameter and have 4-in. wide steel rims. They weigh 500 to 600 lbs. We install our own 'Real McCoy' roller bearing hub inserts in the wheels so they pull easier. Once you get the big wheels moving, it's surprising how easy the cart pulls."

According to Werner, logging carts were widely used in the comparatively flat forest land of central and southern Oregon and northern California. "A crew of men bunched the logs and made them up into loads. Someone dug a shallow trench under the logs just forward of the weight center. The driver backed the wheels astride the load, and the logs were chained to the hoisting rigging. As



Wheels have 4-in. wide steel rims.

the team started ahead, the tongue slid forward, pulled on a chain and the forward ends of logs were lifted. The harder the team pulled, the higher the logs went. Going down heavy grades, the tongue was pushed back to let logs down to act as brakes.

"At landings, the logs were unchained and loaded on railroad cars."

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## Radio-Controlled Plane With Chainsaw Engine

Brothers Sam and Ben Showman, Shellsburg, Iowa, have been building radio-controlled aircraft for about five years in between chores on the family hog farm. Their efforts resulted in a wood-framed plane with a 10-ft. wingspan, powered by a 40 cc gasoline 2-cycle engine.

"Our other planes weren't as sturdy as this one," says Ben, an 18-year-old freshman pre-engineering student at Kirkwood Community College, Cedar Rapids, Iowa. Sam, 21, is now a junior in aerospace engineering at Iowa State University, Ames.

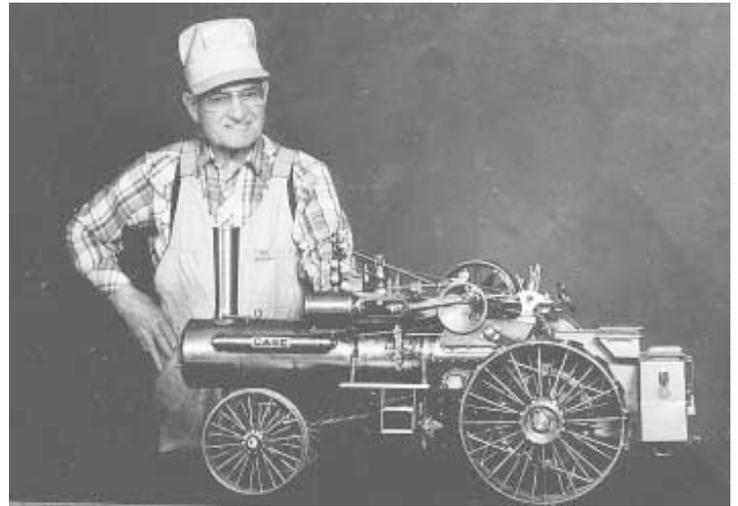
The big plane takes off from an 800-ft. runway behind the family's hog confinement buildings.

Home-schooled throughout elementary and high school by their mother, the Showman brothers turned their interest in

aeronautics into numerous science projects and learned lessons in math and physics along the way. The Showman boys called their plane the Weedwhacker because it was initially powered by a gasoline engine they salvaged from an old string trimmer. Even though that engine performed well in their testing, they eventually replaced it with a lighter, more powerful 40 cc engine they "borrowed" from Homer's 20 year old Homelite chainsaw.

The young men say the airplane is built solely out of 2 by 4's. They spent countless hours at a table saw, splitting thin strips of wood from 2 by 4s, in order to build a light but strong frame. They use a six-channel Futaba radio to control the plane.

It has 6-in. foam wheels on the main gear and a 2 1/2-in. foam tail wheel.



Lloyd Kendall and his J.I. Case Steam Traction Engine model. He made all the parts himself out of scrap iron, using a lathe and mill.

## Model Steam Engine Looks Just Like the Real Thing

When Lloyd Kendall established a homestead property near Prairie River, Saskatchewan, in 1935, he spent countless hours riding a J.I. Case Steam Traction Engine with a breaking plow behind it.

"I always said I'd never worked so hard for nothing as I did that summer with the breaking plow," he says. "We used that steam engine one summer to break the sod so we could farm it the next year. Then for three years we used it to run a sawmill. We finally quit using it in 1938 or 1939, when we found we could operate a gasoline tractor cheaper - gas only cost \$7 a barrel then - and with less labor. The steam engine sat around for a few years and I finally sold it for scrap."

"I've been terribly sorry a lot of times since then that I didn't save that traction engine, and I always said if I lived long enough and was able, I'd make a working model of it," he says.

Now nearly 85 years old, Kendall has finally completed a detailed model. With the exception of some bolts and small valves, he made all of the parts himself out of scrap

iron, using a lathe and mill. He wanted to buy the gears for it, but couldn't find the right sizes. Undaunted, he went to the library, read up on making gears and went home and made what he needed. He made the governor too, and, "it works fine," he says. He even made a working water pump for filling the tank.

"I only had photos and my memory to work from, so it may not be exactly to scale," he admits. "But people I've talked with who had experience with these engines - and there aren't many of us left - say it's authentic."

While his machine has everything it needs to actually run on steam, Kendall put a valve on the pressure tank so he can charge it up from an air compressor. "Firing it up would be too dirty. Air pressure makes it work fine," he says.

Kendall worked on the engine in his spare time over a five-year period. He says he has no idea how much time actually went into it. Out-of-pocket expense was minimal.

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Wood-framed plane has a 10-ft. wingspan and is powered by a 2-cycle gas engine. Plane is fitted with a bomb bay and radio-controlled door as well as radio-fired "air-to-air missiles".

Ben says they used a stopwatch to clock the Weedwhacker at a top speed of 65 mph. "It stalls at about 20 mph, but is very easy to control and bring out of a stall," he says.

At full power, the plane uses 1.6 oz. of fuel per minute. They fitted it with a 32-oz. fuel tank so it can stay aloft for 20 minutes at full power. That means it could travel 21 miles without running out of fuel. "That's a lot farther than our radio signal will carry, and well beyond where we could see it," Ben says. He says there have been instances when they've allowed it to climb high enough into cloud masses that the radio signal breaks up and they lose control - temporarily.

The plane itself weighs about 30 lbs. It



will handle a payload of about 10 lbs. The plane is fitted with a bomb bay and radio-controlled door, so they can drop "bombs" with it.

They've also added a fast-burning jet engine to assist it in takeoffs. And Ben recently added radio-fired air-to-air missiles. Without a load, the plane takes off in just 75 ft. It also requires about 75 ft. to roll to a stop on landing.

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