

This rare twin-head windmill was manufactured by Twin Wheel Manufacturing in the 1920's.



## Double-Head Windmill A Real Show Stopper

A rare 100-year-old double-head windmill is now a permanent fixture at the Little Log House Pioneer Village near Hastings, Minn. "It's one of only three still in existence, and it was the backdrop for a lot of pictures at our July Power Show," says Steve Bauer, who acquired the fixture from a Southeast Minnesota collector last year.

"I've known about this 40-ft. tall windmill for quite a few years and always thought it would make a nice addition to our village," Bauer says. "Getting it here was a real challenge. We had to remove the 20-ft. diameter finned steel wheels, the gearbox, and a large vane without damaging them. Then we dismantled the base piece by piece."

After securing the parts on flatbed trailers, they hauled everything to their village site and re-erected it. Bauer's crew was up to the challenge. Over the years they've dismantled and moved nearly 50 old buildings, a large wooden and steel sided grain elevator, railroad equipment, military vehicles, and other historic equipment, including a drive-in restaurant.

Bauer says his unique windmill was built by

the Twin Wheel Manufacturing Company in Hutchinson, Kansas. "The company claimed this design could pump 10 times more water than a typical single head windmill," he says. "It used a chain drive mechanism to transmit the rotary wheel motion to central sprockets, where it was converted to reciprocating pump strokes."

Bauer says he heard that the chains often broke, so a newer design had a direct shaft drive and beveled gears to transmit the wind power into a pumping action.

Twin Wheel Manufacturing built windmills from 1917 to 1928. The company was the most unique of 66 different manufacturers in Kansas that built windmills from the mid 1800's through the 1950's. Bauer says that to his knowledge the only other Twin Wheel windmill in the U.S. is at the windmill museum in Lubbock, Texas. A third one is in Africa pumping water for a village.

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The J.D. Russell hay business in Ohio modified two Hesston balers so they'd produce two bales at a time rather than one. Their business produces racetrack-quality hay and straw for horses that's shipped to customers across the country.



## Rebuilt Balers Double Capacity

"Back in 2013, the balers we had were 10 years old and when we couldn't buy the size and capacity balers we needed for our specialized horse hay business, we decided to make our own," says Ohio hay producer John Russell. They partnered with an equipment manufacturer in Michigan who helped them design and build a self-propelled double-wide small square baler that they first used in 2014.

Russell says the design had a wide pickup from a big square baler that fed two small chambers, but it didn't feed properly, and the bales were uneven. They scrapped that design and in 2019 bought a new Hesston 1844 three-tie baler.

"We cut that machine apart, including the pickup, and built a new, larger bale chamber, plunger and knoter system," Russell says. They added a knife to slice the bales in half after they were made, and it produced exactly what they wanted. "Our idea worked and we were able to make bales that our customers really liked."

Russell says their new machine has a single feed system, a single chamber and a single plunger, solving the problems that doomed the self-propelled prototype they built earlier.

The Russells used their new machine to produce 70,000 bales during the 2020 hay and straw season. After minor revisions to the design, they made a second unit just like the first and are now running them side by side. Russell says "these balers double the amount we could produce with our single balers. We're able to eliminate one tractor and one operator for each double baler."

Asked if his baler design might reach the marketplace in the future, Russell says his family's livelihood is hay and straw production, not building equipment. Still, he wouldn't be surprised if the baler companies came out with one.

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## Rancher Grows Sunn Hemp Forage

"My county was the capital of hemp production in Kentucky with 2 of the largest CBD processors in the country," says cattleman Kevin Poole. "Before it all went bust, I thought I could feed the waste material to my cattle, but I found out that was illegal."

Poole looked for a legal alternative and found sunn hemp. It doesn't have the psychoactive components of hemp and can be grown and fed without regulation. It is also high in protein.

The crop has been grown successfully as far north as Massachusetts; however, even Kentucky is too far north for the plant to set seed. Poole found a seed supplier in Florida with a price close to that of sorghum sudangrass seed.

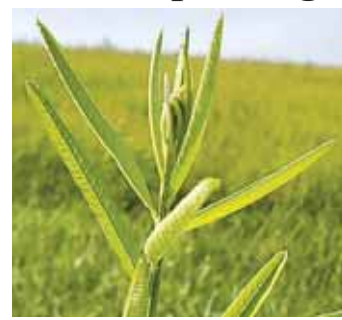
"I ordered 7,000 lbs. of seed and started planting it in the 2019 cropping year," says Poole.

Poole found that it mixed well with sorghum sudangrass when chopped for silage. It bumped protein levels to 18 percent from 10 to 11 percent. He also had success incorporating it with cool season grasses. "When it turns 85 to 90, cool season grasses like fescue and orchard grass are done, and that is when the sunn hemp comes on like crazy," says Poole. "I planted 20,000 lbs. of sunn hemp this year. It is an amazing plant, but it doesn't like traffic. I seed it, cut it, roll it up and get the bales off the field ASAP."

Poole seeds it into his cool season grasses at around 30 lbs. per acre. If he is chopping it, he will seed it closer to 40 to 50 lbs. per acre.

"The health impact on the cattle has been incredible," says Poole, who grazes it and finishes calves on it. "I'm getting marbling to rival corn fed due to its high protein."

After experimenting with it for the past 2



Sunn Hemp mixed with sorghum is being used to feed cattle for increased protein levels.

years, Poole set up Hemp Cattle Company this spring. He is now selling beef online and through local retailers as hemp fed. What he hasn't been able to do is to attract local investors to the company. Too many local farmers were burned financially when the local hemp industry went bust.

"I want to bring back my community and hope to involve some of the producers who are struggling," says Poole. "Hemp was supposed to be the answer here. Maybe sunn hemp will be. If I can get into some of the chains with hemp fed beef, perhaps I'll be able to franchise out my system for growing sunn hemp and feeding it."

Poole has a little over 200 cow calf units and hopes to expand. Currently he is direct marketing about half of his calves.

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Rotary fork spreads clumps and bales of straw or shavings to create a uniform bed.

## Rotary Fork Spreads Bedding Fast

When the original inventor and manufacturer of the Rotary Fork decided to sell, Neil Scholten, co-owner of County Line Equipment Ltd. jumped at the opportunity to purchase the rights to the equipment.

The machine was designed to quickly and efficiently spread straw or shavings as bedding throughout poultry barns. It easily hooks to the front of a tractor or skid steer with universal mounts. Tractor hydraulics power the fork.

"It's really easy to attach or remove. It's no different than changing a bucket - just hydraulic hoses. Nothing is electric," says Scholten.

A horizontal drum fitted with replaceable fingers spins and spreads the bedding material, driven by a variable speed hydraulic motor. The fork comes equipped with an overload in case something stalls the drum. It easily spreads clumps and bales of straw or shavings to create a neat and uniform bed.

"It does an amazing job," Scholten says. "An average size barn of 15,000 sq. ft. would take 3 people roughly 6 or 7 hrs. to spread bedding uniformly with hand forks. The Rotary Fork completes the same task in about an hour and a half."

County Line Equipment manufactures the Rotary Forks from scratch in their Listowel, Ontario plant. Their 5 and 10-ft. models sell for \$5,600 and \$7,800 (Can.) respectively plus S&H.

"It's unbelievable the calls we've been getting about them. They're an incredible machine. Right now, we're selling across Canada with a bunch in Manitoba and in Quebec. There seems to be more demand with farms getting bigger and the labor force becoming hard to find and hold on to."

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