



Designed many years ago, "motorized unicycle" could turn on a dime and travel narrow mountain trails.

## This One-Wheeler Really Worked

Imagine a motorized unicycle, but one where the operator sits behind the wheel. Engineer Charles Taylor not only imagined it, he built several prototypes. His one wheeler was designed to turn on a dime. It could travel mountain trails too narrow or terrain too rough for two or four wheeled vehicles.

"Charles Taylor deserves tremendous credit for designing and building these machines," says Oliver O'Reilly, a University of California at Berkeley researcher and instructor. "To conceive and build a machine like this is amazing."

Taylor began work on his idea in 1939 and continued work into the 1960's when he received a patent. He never took his idea to production stage, and it never became widely known. Only 100 or so parts of his prototypes remain, along with some photos and movies of working units. Taylor died in 1997, leaving behind many unanswered questions.

Today, O'Reilly and a group of four students are trying to figure out the physics and engineering behind the vehicle. He stumbled across the story thanks to a student.

"Taylor's grand nephew Tony Urry showed me a film of the vehicle," explains O'Reilly. "Mary Urry, Tony's aunt and Taylor's daughter, gave me drawings, patents and other information."

O'Reilly has established a website with much of the information, drawings and pictures as well as the movies. It includes detailed models of the vehicle and how it worked. It also has extensive information on Taylor, a very successful engineer who also



Only 100 or so parts of the original prototype remain.

held patents in ceramics and automatic transmissions. Unfortunately, major gaps remain as to how the vehicle worked, due to missing parts and information.

According to O'Reilly, the vehicle uses two gyroscopes for steering and stabilization. A torque reaction mechanism is thought to have adjusted for forward and reverse momentum at acceleration and braking.

Taylor describes the 5-ft. wheel as being driven by a chainsaw engine in one prototype with a second chainsaw engine powering the gyroscopes. In a later prototype, a Ford Falcon engine provided power, including electricity to a motor on the gyroscopes.

Contact: FARM SHOW Followup, Professor Oliver M. O'Reilly, 6137 Etchevery Hall, Mailstop 1740, University of California at Berkeley, Berkeley, Calif. 94720 (ph 510 642-0877; oreilly@me.berkeley.edu; www.me.berkeley.edu/one\_wheel\_vehicle).

## This Santa's Stuck In A Hawaii Chimney

Santa Claus's legs sticking out the top of a chimney and kicking back and forth makes an eye-catching Christmas display for Herman Smith in Waipahu, Hawaii.

"It wasn't my idea," admits Smith, who grew up on an Indiana farm. He saw a kicking Santa on a visit home more than 25 years ago. "I used that idea and made my own mechanism, Santa and chimney."

Smith's first model had a motor from a washing machine agitator, but it didn't work quite right. He replaced it with an old geared-down motor from a grocery store checkout conveyor, which moves the legs at a better speed. A piece of aluminum over the motor protects it from the elements.

"Imagine a bicycle being driven by a motor and the pedals attached at the hip part of the legs," Smith says. "As it revolves, the legs go back and forth."

Smith made the legs out of plywood and 2-in. Styrofoam before covering them with red cloth. He purchased the boots at a costume store. Smith made the realistic brick chimney out of 3/4-in. plywood with a 2 by 4 rim on top and painted in the brick design.

"I'm near a freeway, and it's quite an eye catcher," Smith says. "Kids sometime yell and point when they drive by."

Starting a week before Christmas, he plugs Santa in from dusk until about 10 p.m. and



Santa's legs stick out top of chimney and kick back and forth.

has two spotlights on the scene.

"Hawaii gets real crazy with Christmas decorations," Smith says. "Some of the neighbors go all out. But, I haven't seen any other chimneys like mine."

He adds that he'll gladly share his design for free with anyone interested in making their own kicking Santa.

"If it puts a smile on somebody's face, that's good enough," he says.

Contact: FARM SHOW Followup, Herman Smith, 94-547 Loaa St., Waipahu, Hawaii 96797 (papadoo1@gmail.com).

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John Rietmann started driving this 1952 Chevy V-6 pickup to school in the late 1960's. Now his daughter Brenna drives it. It has more than 300,000 miles on it.

## '52 Chevy Truck Serves 3 Generations

The "Red Bomb" was as cool when John Rietmann drove it to school in the late 1960's as when his youngest daughter headed to school this fall. The 1952 V-6 Chevy pickup was the family's old farm truck. Because the speedometer was replaced and turned over at least a couple times, Rietmann doesn't know the truck's mileage, but he estimates it's more than 300,000.

"I was in high school and I needed a rig, so I fixed it up," recalls Rietmann, of Ione, Oregon. "It was blue, but I painted it red and white for the school colors."

Over the years, the car became sort of a school symbol parked in the same corner parking lot spot. After Rietmann graduated, his younger brothers drove the truck to school.

"The one rule was that we were to just drive the 10 miles to town and back," he adds. It's a good rule that continues to this day; he recalls that once when he tried to go further it quit on him.

After his brothers graduated, the truck sat idle for a few years until Rietmann's oldest son, Nathan, got his license in the 1990's. Then second son Jeremy drove it, and last

year, Brenna, took her turn at the wheel.

Though it has a manual transmission and no fancy features, everyone has looked forward to driving it, Rietmann says. His mother, Betty, drove it when it was brand new after marrying Bob Rietmann in 1953.

Though it has had a few mishaps - including nearly going over a cliff - it has been a good truck, Rietmann says.

The truck has had makeovers through the years, including an engine overhaul. Rietmann changed the electrical system from 6 volts to 12 volts. In 1998, his son, Jeremy, added decals and a Chevy radio to restore the truck's classic look. Before Brenna started driving, Rietmann had a new custom rear end installed, as well as upholstery work and a new paint job.

"The plan is that when she graduates from school it's my pickup again," Rietmann says. "The only difference now from when I drove it (years ago) is that you take the keys out when you're in town."

Contact: FARM SHOW Followup, John Rietmann, 66904 Olden Lane, Ione, Oregon 97843 (ph 541 422-7123).

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