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Museum displays replica of 1910 helicopter
Railroad mechanics from Goodland were granted first U.S. patent for a helicopter
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The Associated Press

GOODLAND - In 1909, two railroad mechanics created their vision of a helicopter. If not for their lack of money and expertise, they might well have made it fly.

Circumstances create drastically different outcomes. Six years earlier, Orville and Wilbur Wright made history with the first powered, control flight of an airplane.

But William Purvis and Charles Wilson are historical footnotes, all but forgotten, even though they were granted the first U.S. patent for a helicopter. They received it in 1912 - about a year too late to do them any good.

For a brief time, they were the toast of Goodland. People flocked to buy stock in their Goodland Aviation Company. Residents picnicked at the Purvis farm on weekends, watching as the two men tinkered.

It was a triangle-based machine with a large rudder and twin rotors 20 feet across. All that remains are the two metal rotor shafts, one designed to fit inside the other.

The two pieces are now on display, along with a replica of the entire machine, in the High Plains Museum, 1717 Cherry, in Goodland.

Some said the helicopter flew and crashed into Goodland's water tower, but that's only a flight of fancy. It wouldn't be until 1939 that Igor Sikorsky, a Russian immigrant working in New York and Connecticut, came along with the first practical helicopter.

"It never flew and never hit the water tank. It was a hilarious ending to the story, but it never happened," said the inventor's son, William Purvis Jr., Prue, Okla.

The 77-year-old Purvis said his father, who died in 1944, seldom talked about his dream of what once was called the flying machine or gyrocopter.

"He hurt too bad, feeling like he lost people's money. He wasn't bitter about not making it work," the son said. "He couldn't figure out how to control it, and Sikorsky could, and that made the difference."

Idea was hatched in candy store

Purvis said his father got the idea in 1909 from watching a kid in a candy store play with a whirligig, a propeller on a stick spun between the hands and sent flying.

Not exactly high-tech aviation with wind tunnels and stress tests, but at the time, two horses dying of lockjaw was front page news.

So the story goes, Purvis, who was 38, grabbed the whirligig, tossed the kid a penny and ran through the streets to Wilson, his 20-year-old co-worker at the Rock Island railroad machine shop.

From there, they drew plans and began work at Purvis' farm. Their idea was simple enough: create a machine that could fly low and slow, something for carrying freight and mail.

But they had a lot of it wrong, said Harold Norton, a crusty 77-year-old mechanic and former pilot, who spent a year in nearby Brewster building the museum replica.

"If they hadn't run out of money and been laughed out of town, they might have kept working and made it work," Norton said. "No way it could have gone with those big broad rotors. But they weren't damn fools, I'll tell you that. They solved the torque problem with counter rotating rotors."

Left to its own devices, a helicopter will spin with the rotor. Sikorsky solved the problem with a tail rotor. Purvis and Wilson used two sets of blades rotating in opposite directions - an idea that eventually proved practical.

Norton said the two men mistakenly thought the blades needed to be big and wide, which wasn't the case, as modern helicopters demonstrate.

"It couldn't do anything but tear itself up. It would have set up a vibration they couldn't live with," Norton said. "No way could you get it to travel forward, backward or sideways because the blades didn't change pitch."

Another problem, Norton said, were the engines. They used a pair of seven-horsepower Curtiss aircraft motors, each weighing 50 pounds. The problem was too much weight and not enough power.

Norton said the machine probably did get off the ground, but the pilotless craft was tethered and the rotors were turned by a belt fastened to an engine on the ground.

"It never did fly like you think of when you talk about flying," he said.

On Thanksgiving Day in 1909, the two men demonstrated that their machine could work. Apparently, it did get somewhat airborne, to the amazement of spectators.

Townpeople invested in project

Within days, townspeople were investing in Goodland Aviation at \$10 a share, and soon \$30,000 was raised. The two men continued working, but remained hampered by overweight, underpowered engines and basic design flaws.

Within months, the money began running out, and some investors turned into armchair engineers, offering one impractical solution after another.

For Goodland's Fourth of July celebration in 1910, another flying demonstration was promised in a front-page newspaper article with a photo of the two men in their Sunday suits standing beside the machine.

But it never materialized. Purvis went to St. Louis to find a lightweight powerful engine but came home empty-handed because he didn't have enough money.

The dream finally died.

Wilson left in July 1910 to work at the rail yards at Armourdale near Kansas City, where he lived until he died in 1965 at age 76.

In December 1910, Purvis and his family moved to Missouri, and then a decade later to Wisconsin. The two men never got together again.

By April 1911, the company in which so many had invested their money was no more.

"The Goodland Aviation Company has collapsed very much like a balloon when punctured. They have gained some experience and lost some cash. Nobody complains and nobody blames," one local newspaper reported at the time.

