

# Billy Robinson

## Birdman of the Prairie

by Lynn Cavanagh

**O**n one of the highest hills at Hazelwood Cemetery in Grinnell, Iowa, is an imposing granite stone. The stone, distinctive from the other grave markers surrounding it, belongs to a man who was also distinctive from those who surrounded him.

On the granite stone there is a bronze plaque that reads: "This stone marks the last resting place of William C. Robinson, pioneer non-stop flier and second authorized carrier of air mail. He met death in his plane, a few miles south of Grinnell, when making an altitude flight March 11, 1916. Erected by those who honor the memory of Billy Robinson."

Billy Cornelius Robinson was born in Redfield, South Dakota, on September 24, 1884. The Robinsons were poor. When Billy was eleven, his father, Franklin, moved the family to Florida, where he hoped to find a well-paying job. Franklin died within the year, leaving behind his wife, Cordelia, and four children. In 1896 they moved to Grinnell, Iowa, a college town of 5,000, to be close to relatives.

Twelve-year-old Billy and his two older brothers worked after school to support the family. Billy found a job at Walter Preston's Fix-It Shop. Here he repaired all sorts of things—bicycles, typewriters, farm equipment, wagons, baby carriages, and, eventually, one-cylinder automobiles. He had a knack for fixing things, and he didn't mind working long hours after school. Preston was a kind and patient boss who taught Billy his trade. Before long Billy had established a reputation, and people asked for him by name.

Short for his age and never having much to say, Billy surprised his classmates when a motor he had built won first prize in a seventh-grade science fair. He had designed and built the gasoline engine, crafting the parts from scraps around the shop.

Preston and Billy shared another interest, aviation. Fascinated with the experiments in flight going on all over the world, they endlessly discussed magazine and newspaper articles covering these attempts at flying.

During these first years in Grinnell, Billy made a life-



**Billy Robinson, in his worn leather pilot's jacket. "Billy never had any money," a friend once said, "but lots of brains." The plaque on his gravestone is in the lower right.**

long friend, Charley Hink, who was also fascinated by how things worked. Charley was boisterous and outgoing. Billy was quiet and moody, but Charley respected his knowledge and the two got along well. They spent long hours in Charley's basement pulling machines apart and putting them back together.

When Charley invited Billy and some other friends out to his cousin's farm to shoot owls, Billy had no in-

terest in shooting them, but rather in studying them up close. He wanted to know the proportion of the wings to the body, how the owls managed to lift off the ground, stay in the air, and change direction. The other kids thought Billy was a bit strange, but Charley always stuck up for his friend.

One day Billy invited Charley to go with him for a test ride in a Stanley Steamer automobile he had worked on at the Fix-It Shop. "After Billy got everything in order we went out for a ride. Boy!" Charley recalled years later. "That was some thrill, riding under power. There were a few single cycle gasoline cars out then but the Steamer would go twice as fast and fly up steep hills as long as the steam pressure lasted." It was the closest thing to flying the two friends had experienced.

In 1899, when Billy was 14, his mother moved the family to Oskaloosa, where her sons would work in the coal mines. Billy begged to stay behind. He moved into a small room over Preston's shop, went to school during the day, and worked at night and on weekends. A year later tragedy struck when Billy's brothers were killed in a mine accident. His mother and sister returned to Grinnell. Billy dropped out of high school to help support what was left of his family.

**W**hile working at the Fix-It Shop, Billy built his first glider out of wires and wheels and leftover materials Preston had let him have. He would drag his 20-foot glider down Fourth Avenue to the west edge of town, where there was a hill and a deserted barn. With the glider strapped to his back, he would race down the hill or jump off the barn roof. Most of the time it glided smoothly for a few seconds. Sometimes it crashed.

People in Grinnell eventually grew used to seeing the skinny kid hauling his odd-looking flying machine back and forth, both he and the glider dusty and dinged up. People began affectionately calling him "The Birdman of the Prairie."

Years later, a Canadian newspaper quoted Robinson discussing those early days: "First of all I read everything I could find on aviation, not only in American papers, but foreign ones as well. Then I decided that I would build a flying machine. The concrete result was that I made a little 20 foot glider, similar to the regular biplane, except it was much lighter, and to operate it, it was necessary to get on an elevation and coast downwards in the air. . . . You cannot imagine the first sensation that I experienced when I felt myself gliding into the air and I determined then and there that I must learn to fly."

By about 1906 Robinson had saved enough money to go back to school. He had been reading about the accomplishments of Orville and Wilbur Wright on the East

Coast and realized he needed to study math and physics to better understand flight. He was accepted by the Grinnell Academy for high-school level courses, and then by Grinnell College. But money problems again interfered with his plans and he left school. By then married to Katie May Crase from Wisconsin, he returned to work at the Fix-It Shop, where Charley Hink joined him. Eventually they bought the shop from Preston and moved it to a larger location.

Hink and Robinson spent hours talking about flying machines and what kinds of engine could keep such machines up in the air. In 1909 they built a 60-horsepower air-cooled radial engine with six cylinders. They had built the parts themselves, making molds for the castings and welding pieces together. Innovative for its time, the engine had a turning crankshaft attached to a wooden propeller with an 8-foot arc. More importantly, because it was air-cooled, there was no need for water, which had weighed down earlier engines.

On the first test, they strapped the engine to a light pole outside the shop. Robinson carefully poured a cup of gasoline into the engine as Hink watched from behind the corner of the building. The engine exploded and the fire department came running. The inventors dusted themselves off and tried it again a few weeks later. The second time it worked just fine.

Robinson worked relentlessly towards his dreams. He bought out Hink's portion of the shop, working on autos during the day and on flying machines at night. Before long he had designed and built himself a monoplane. His mother, sister, and wife put in long hours sewing the muslin strips needed for the wings.

In June 1910, Ten Big Shows Circus came to the Poweshiek County fairgrounds. It left town with Robinson and his monoplane as part of the show. For almost a year he traveled throughout the Midwest, mainly to county fairs, strapping his plane to a post and turning on the unmuffled radial engine to attract curious onlookers willing to pay money to see Robinson's airplane even though it never left the ground.

Like many early pilots, Robinson went wherever opportunities presented themselves. Eventually he quit the circus and headed to Florida, where Swedish aviator Max Lillie operated his Pioneer Aeroplane & Exhibition Company flying school. Robinson learned to fly a Lillie-Wright pusher plane (the engine was behind the pilot) with an Anzani rotary engine and a chain-driven prop, and he earned his pilot's license in August 1912. Lillie was impressed with Robinson's keen mechanical ability and his steady flying skills. Later that fall the two were hired as chief mechanics and also as pilots for flying exhibitions for the National Aeroplane Company of Cicero, Illinois. Within a year Robinson was named a partner in the company.



DRAKE COMMUNITY LIBRARY, GRINNELL, IOWA

Robinson with Canadian schoolchildren and the biplane he flew from Montreal to Ottawa in a record-breaking flight in 1913.

During this era of fierce competition and rivalry, pilots wanted safer planes, but they were also willing to take risks in order to please a curious public. All too frequently planes crashed and pilots were maimed or killed. Robinson had a reputation for being a skilled and knowledgeable pilot. He wasn't a daredevil, but that's not to say he didn't have his share of mishaps. Once during a flying demonstration in Malvern, Iowa, his plane stalled in the air and then crashed. It was destroyed, and Robinson ended up with an ugly gash on his forehead. Another time his plane hit the brick wall of a house while landing. The engine was in the front of the plane; he claimed it had saved his life. Sometimes there were freak accidents, such as when his pop bottle exploded high in the skies above Chicago and left him permanently blinded in his left eye. From then on his wife reminded him to wear his goggles.

In early 1913 Robinson was flying a National Nieuport Aeroplane over downtown Chicago, attempting to break the altitude record of 10,000 feet. Deciding it was too windy, he headed back to Cicero Field. At 4,000 feet above Grant Park, the engine blew a fuse, and a spark from an engine fuse ignited the fuselage material. Flames erupted and black smoke trailed behind him. He put out the blaze with a fire extinguisher in one hand while steering with the other. When he landed he was met by hundreds of Chicagoans who had witnessed the event and

were amazed he had lived. "I thought I was a goner, too," said Robinson with a shy grin.

In October he broke an international long-distance record. In a 50-horsepower Gnome-powered Lillie Tractor biplane, he flew 116 miles from Montreal to Ottawa in 2 hours and 55 minutes, stopping four times to refuel. So many on-lookers covered the Ottawa airfield that he had no place to land. He quickly found a nearby farm field: "There was a horse in the field, but I reckoned on running along the other side and avoiding it. As I came down, however, the animal ran in front of me, and I had to raise one wing and make a very sharp turn to miss striking it. In the other fields where I landed there were cattle but I had no trouble with them."

Talking to a reporter about passenger airplanes in the near future, he said, "The only hindrance to development along these lines is, not the danger, but the cost of running the machines. . . . Flight by air will be found cheaper in the end. In preparation for such a day, the larger cities should provide open fields where airplanes could start and land and they should also have aviator's maps prepared."

Late that year the Robinson family returned to Grinnell. In addition to designing and building airplanes, he wanted to hire top mechanics and start a flight school. City leaders had been closely following his achievements in the news. Welcoming him with enthusiasm and open pocketbooks, they agreed to fund his Grinnell Aeroplane Company.

By mid-1914 Robinson had designed and built his first monoplane, named *Scout*. It weighed 900 pounds and had a 36-foot wingspan and a cruising speed of 90 miles per hour. The design allowed the pilot to see clearly both above and below the wing. Positioned in the front, the six-cylinder 100 horsepower radial air-cooled engine weighed only 400 pounds (whereas the popular Renault engine weighed 683 pounds). Unfortunately all of these early engines threw a lot of oil, splattering it over the muslin wings, the engine cowlings, and even the pilots, creating a big fire hazard. With his old leather jacket spotted with oil, Robinson learned to carry spare clothes and extra goggles.

In the fall of 1914, Billy tested *Scout* all over the Midwest, where flying fields were often half-mile tracks at fairgrounds or pastures that were rough and bumpy. Back in Grinnell, Robinson was again a novelty, as he had been with his glider. Townspeople now watched him haul his monoplane, tail first, with his Model T Ford, from his shop to the airfield. They had learned to be unobtrusive. Robinson was always a bit of a loner, and he was unusually protective of his inventions and didn't like people crowding around for fear his ideas would be stolen.

Robinson designed folding wings for easier transportation and storage. He invented oil-grooved piston rings, rudders, new landing gear, and also pontoon landing gear. The Grinnell Aeroplane Company's board of directors was constantly after Robinson to apply for patents, but he could be pig-headed and stubborn. Busy inventing, building, and flying, he didn't want to travel to Des Moines, hire a lawyer, and fill out paperwork.

Inventing didn't always pay the expenses. Money was going out of the company, but little was coming in. At the urging of the board, Robinson decided he could attract national attention and thereby generate business by showcasing his monoplane. At the time, the U.S. nonstop record was 264 miles. Robinson set his mind to breaking the record by flying from Des Moines to Chicago, a distance of 332 miles.

The *Des Moines Capital* and *Chicago Tribune* helped with expenses and publicity. He got permission from the United States Postal Service to carry mail on the flight. With over 150 letters onboard from supporters in Grinnell and Des Moines, he became the second authorized pilot to carry mail that distance.

Mid-morning on October 17, 1914, a rousing crowd in Des Moines watched as he took off in his monoplane. He headed east, flying at 5,000 to 6,000 feet, following the Rock Island Railroad tracks far below. Fifty miles east of Des Moines, he passed over Grinnell and heard the Spaulding Factory whistle blowing in his honor. Knowing friends and family were cheering him on, he dipped a wing in acknowledgment.

After flying over Iowa City he never really saw the

ground again. The railroad tracks—considered a pilot's "iron compass"—were blanketed by cloud cover. He needed to trust his small pocket compass and his instincts. "A storm was raging below and ahead," he later told a reporter. "To avoid it I shot the machine higher up, and soon I was above the clouds. I had been above the clouds before, but I never saw them so beautiful.

"The sight was like a vast sea of ice. Dazzling white clouds below me as far as I could see in every direction. Above me the sun was shining brilliantly. But it was cold. I carried no thermometer, so I don't know what the exact temperature was, but I am sure it was near the freezing point.

"The light was so intense from the sunshine on the white clouds that it affected my eyes like snow blindness.

"The cold was sharp and intense and I felt it even thru my leather suit. The wind above the clouds came straight from the north. Below the clouds when I left that region it was blowing northward from the northwest.

"It was a most wonderful sight. I imagine it must look like that in the polar regions."

Running low on fuel, Robinson feared landing in Lake Michigan. "At last I saw rifts in the clouds," he said, "and during the last half hour I was up, the clouds below me began breaking up and gave me a sight of the ground. My gasoline ran out about this time and I descended in a slow glide and found myself in Kentland, Indiana," southeast of Chicago.

Billy Robinson had broken the long-distance flight record. He landed in an Indiana farm field, which gave him a record distance of 390 miles. This was verified by two sealed barographs onboard, provided by the Aero Club of America. He had been in the air 4 hours and 48 minutes. The next morning, he flew 81 miles to Chicago to deliver the mail.

At a banquet attended by ex-President Theodore Roosevelt, Assistant Secretary of the Navy Franklin D. Roosevelt, and Arctic explorer Robert Peary, the Aero Club of America awarded him one of nine Medals of Merit for his contributions to aviation. He almost didn't make it to the celebration. It seems he only had the overalls and shirt he wore every day. He borrowed a suit from Charley Hink. Later in 1915 Robinson was named one of the 119 charter members of the American Society of Aeronautical Engineers. Robinson didn't have the money to travel to Washington, D.C., to accept the award, so it was mailed to him.

**A**s World War I engulfed Europe, America's fledgling aviation industry began to explore wartime use of planes. Robinson was in touch with the army and the navy about supplying airplanes. Numbers and dollar amounts were discussed. He was not much of a businessman, however, so little or nothing

was put in writing. Most of his board of directors were not even aware that these discussions were taking place.

In late 1915, Robinson focused his energies on building a biplane, *Luxuria*, again with his radial engine. It had a wingspan of 37 feet and 6 inches and weighed 1,100 pounds. Larger than his monoplane, it could carry two passengers side-by-side, a convenience for flight instruction.

Robinson's Grinnell Aeroplane Company continued to struggle financially. Stockholders were grumbling. The board was not pleased. In fact, the company books show that in January 1916 an overdraft had to be settled by a few of the directors. Robinson's brains and determination were keeping the company in business. The board needed him on the ground, where he could design and build rather than risk accidents and injuries. Yet, the company also needed money. He needed to fly.

The U.S. altitude record was 17,000 feet in 1916. Robinson thought he could break it. He planned to make the attempt right over Grinnell and received authorization from the Aero Club of America in Chicago. He had already taken his plane up to 14,000 feet and he was confident that he could surpass 17,000.

He had, however, mentioned to his wife, Katie, that he got terrific headaches when he flew that high. She was worried but Robinson was confident, perhaps too confident, in his airplane and in himself. He was also stubborn. He insisted on going ahead with his flight.

Two weeks before his attempt, he tried to appease his board by applying for patents for a few of his inventions. Unfortunately, there were dozens of others for which he hadn't applied.

On a chilly, gray afternoon on March 11, 1916, Robinson climbed into his cockpit. There was a light dusting of snow on the Grinnell airfield, where hundreds of well-wishers joined his family and board of directors to watch him take off.

The plane could be heard high above them for about 30 minutes. Then the skies grew quiet.

About this time a farmer three miles south of town heard the sound of an engine sputtering. He spotted *Luxuria*. It seemed to catch itself for a few seconds, then fall again. Finally it skidded onto the ground at a tremendous speed, hit a ditch, and exploded into a fiery ball.

It will never be known if Robinson broke the record that day. The barograph, which would have proved it, was destroyed in the crash. Katie Robinson, along with just about everyone else in town, believed that her husband had broken the record. She also believed that his heart had given out at the high altitude and that he had faded in and out of consciousness as he battled to bring the biplane safely to the ground.

Billy Robinson was dead. He was only 31. Iowans, and especially Grinnellians, were stunned. Local schools, factories, and businesses shut down the day of the fu-

neral. Robinson's board of directors carried the simple wood casket down the wide stone steps of the overflowing Methodist church. Hundreds of silent mourners lined the streets to pay their respects as the funeral procession passed by on its way to Hazelwood Cemetery. The Bird-man of the Prairie was gone.

**W**ithout Robinson's leadership, the Grinnell Aeroplane Company folded in two years. Without the protection of patents, many of his ideas were used freely by others. The Dodge Tool Company took over manufacturing of the radial engine for a few years after World War I but then closed. The U.S. government had put in a large order for the radial engine, but after the armistice was signed, the engine was never manufactured in great numbers.

In 1930, the *Grinnell Herald-Register* printed a letter from noted aviator Erik Hildesheim: "It just struck me that the late Wm. Robinson had more claim to a pioneer title than most early birds. After the two Wright Brothers and Glenn Curtiss had by flight demonstrated their respective models, endless copies were made of them by people who made a living by flying at country meets until they were killed, as happened in most cases, or till there was no more money in the game. However while the planes were home-made contraptions, the power-plant (engine) was invariably bought from some manufacturer. Wm. Robinson is the only other known instance beside the above-mentioned three earliest birds, who made himself also the engine that powered the plane. Sure fine company to have been in."

Today, those of us inspired by Robinson's story might let our own imagination soar—as he did—and envision still more accomplishments of this intrepid Iowa inventor and risk-taker, had he only lived longer. ❖

*Lynn Cavanagh, a long-time Iowa resident, is currently at work on a pictorial history of Grinnell.*

#### NOTE ON SOURCES

Sources include unpublished materials on Robinson and Charley Hink in the collections of the Grinnell Historical Museum and Drake Community Library (Grinnell); *Grinnell Herald*, *Grinnell Herald-Register*, *Malcolm Leader*, *Des Moines Register*, *Chicago Daily Tribune*, *Montreal Daily News*, Grinnell College newspaper; E. Larue Jones, "Robinson's American Cross Country Record," *Aero and Hydro Magazine* (Oct. 1914); K. M. Molson, "Montreal to Ottawa by Air 1913," *CAHS* [Canadian Aviation Historical Society] *Journal* (Winter 1973); E. Larue Jones, "The Grinnell Aeroplane," and "The Robinson Radial Motor," *Aeronautics: Progress of American Aviation* (March 1, 1916; May 24, 1916); Jim George, "Billy Robinson, Pioneer Iowa Aviator," *Iowan* (June-July 1958); W. G. Ray, "Billy Robinson, Bird-Man," *Palimpsest* (Sept. 1930); "The Story of Billy Robinson," *Grinnell, A Century of Progress* (Grinnell: Grinnell Register-Herald, 1954); Grant Gale, "A Better Engine," *Goldfinch* (Sept. 1980); Ann Holtgren Pellegrino, *Iowa Takes to the Air* (Story City, IA: Aerodrome Press, 1980); and Robert Smith, interview with author, 2008.