

Flying Pioneers

By HAROLD E. MOREHOUSE

HARRY P. CHRISTOFFERSON

Harry P. Christofferson was born on a farm near Spencer, Iowa, March 31, 1884, one of seven brothers. Later the family moved west where Harry attended public schools at Salem, Oregon. Mechanically inclined, he then engaged in auto chauffeuring in San Francisco. In March, 1910 he saw Curtiss pilot, Charles K. Hamilton, fly at Portland, Oregon, which fired his interest in aviation. As a result, Harry and his younger brother, Silas, built an aeroplane and an engine for it that summer in Portland. It made one flight and crashed, but it was the beginning of a most noteworthy career in aviation for both gallant brothers.

Following this, Harry decided to really get into the flying game, and later became associated with Early Bird, Charles Walsh, of San Diego, as a mechanic. Walsh had built several aeroplanes, and had taught himself to fly. Harry joined him on the road to fly exhibitions with their first exhibition being at Portland, Oregon on May 3rd, 1911. Following this, they exhibited at several western cities and then entered the famed Chicago International Meet August 12-20, 1911. While there, Walsh joined the Curtiss Exhibition Team, and Harry continued on as his mechanic in the new arrangement by permission of Glen H. Curtiss.

After the Chicago Meet they toured the middle west and southern states. When the season closed, Harry returned to the West Coast and started to take flight instructions from Howard Gill on a Burgess-Wright Model plane at Dominguez Field, Los Angeles. The Burgess Co. had opened a winter school there, with Gill as instructor. Before Harry could complete his course, Gill had a bad crash and wrecked the plane, which ended Harry's instruction for all time. He then returned to Portland and joined his brother Silas who meanwhile had taught himself to fly. Harry and Silas jointly acquired a Curtiss pusher plane from Norman DeVeaux, a west coast automobile manufacturer, and together they laid plans for the 1912 season. Harry helped prepare for the celebrated "surprise flight" Silas made from the roof of the Hotel Multnomah in Portland on June 11, 1912. Taking off from a crude, board runway they had built on the roof, Silas flew over the city, and about 8 miles to Vancouver, Washington where he landed. It was a daring feat to say the least, but he made it and gained nationwide publicity.

Following this flight Harry proceeded to Vancouver, and on the site which later became Pearson Field, he taught himself to fly on the Curtiss biplane. By patient ground hopping he succeeded in making his first solo flight after a few days of practice. He and Silas then toured the northwest for the remainder of the season, making exhibition flights. Later they fitted floats to their plane and did considerable flying from the water. That fall, the brothers successfully enjoyed the new sport of hunting ducks while flying from the water at Portland. During the latter part of the summer they bought a second Curtiss-type plane with Curtiss motor, from the Paterson Aeroplane Co. of San Francisco. The week of October 12, 1912, Harry flew at the Ontario, Oregon Fair, dressed as the "Aerial Cowboy".

In early November, 1912, an advertisement appeared in the aviation magazines: "Christofferson Aeroplanes. Biplanes of all types built to order, passengers carried

- pupils trained, at Portland, Oregon." Later that month an announcement was made that they were moving their business to San Francisco, California. There the company started to operate in a small factory on Van Ness Avenue and established a "Hydro Haven" at Harbor View. That month the Christofferson Aviation Co., Inc. was formed and their first advertisement appeared in January 1913 magazines.

For their first project, work was started on two Christofferson designed flying boats. Their flying school opened with two students, Charles Boyd and A. Fessler. They were also rapidly building up their shop facilities in an effort to make it the best equipped aeroplane factory on the West Coast. In February, they merged with the ALCO Hydroaeroplane Co. (Allen Loughhead) who were also building a plane, and erected a hangar at Ft. Mason with room for two planes. In late February their first flying boat was nearing completion and two more were started.

Early in April, 1913, the first Christofferson Flying Boat was launched. It was a biplane of 49 ft. span, seated three, and was powered with a 110-120 hp Hall-Scott engine located in the hull, driving a separately mounted high propeller by roller chain. It was an immediate success. In May, two of these flying boats were sold to Arctic explorer Roald Amundsen for his use in exploring the Polar regions. They were to be capable of operating off the water or ice fields. These planes were built but not delivered to Amundsen, as World War I changed his plans. The aircraft were embargoed and were never used in the Arctic. They were sold to Japanese interests later on.

During the summer of 1913, the brothers were very active in exhibition flying at many places throughout the western states. Starting July 14, Harry flew his Hall-Scott powered Hydro at the 1913 Potlach celebration at Seattle, Washington for six days. While there, he played a part in the spectacular record-breaking round-the-world trip of John H. Mears of New York, by flying



Harry P. Christofferson: Early Aeroplane Mechanic - Pilot - Instructor.

him from his incoming ship across Elliott Bay to the wharf in record time, using a Christofferson Hydro. In August, Harry and Silas gave exhibitions at Saltair, Salt Lake City, for a time, and while there, Harry became the second aviator to fly off great Salt Lake, Glenn Curtiss having been the first. In the Fall of 1913, the brothers began flying actively at the Panama-Pacific International Exposition at San Francisco, carrying passengers and participating in aerial tournaments held each Sunday. That Winter they were very active with their flying and construction work, as well as conducting their school.

Throughout the early Spring and Summer months they promoted and made many noteworthy record flights and also operated an aerial ferry line between San Francisco and Oakland across the Bay, using their Christofferson flying boat, AIRMAID. July 8-18, 1914, they again flew at the Potlach celebration in Seattle. In September, they bought out a new, outstanding 3-seat tractor biplane, with tricycle landing gear, and powered by a 100 hp Hall-Scott engine. This new plane was designed and built to meet military requirements and was entered in the U. S. Army military aircraft competition held in October at San Diego, California. Several notable cross-country flights were made with this plane.

In early Spring of 1915, the brothers brought out a new flying boat, using many of the same components as the Military Tractor, and powered by a Sturtevant 100 hp engine. They were also operating a daily flying boat passenger carrying service at the Panama-Pacific Exposition waterfront, and there Harry was doing a satisfactory business. He was also in charge of the school and had gained an enviable reputation for his safe flying. That Spring, Lansing Travis, who was a student and one of the business associates of the company, made a trip to Mexico where he obtained an order for one plane which kept the factory busy. Also, the brothers were working on a new engine of their own design. In August the factory was moved to Oakland, California to get more factory space. During 1915 Harry taught a great many students, some of whom went on to become well known aviators, including Joe Bocquellie who purchased a small, specially built Christofferson Loop-Biplane, with Gnome engine, for exhibition work. In early December, the brothers announced their new Christofferson aircraft engine, a 6 cyl. liquid cooled unit, developing 120 hp at 1400 rpm and weighing 460 pounds. This engine later passed official tests in April, 1916.

In January, 1916, the Christoffersons relocated their flying school, using a field near Oakland where they built hangars to accommodate several planes. Their school was busy that Spring with a large class of students, including several Canadians who were training to enlist in the Royal Flying Corps. Also, during the Winter months of 1915-1916 Harry conducted a passenger carrying business at Long Beach, California. During this operation he also did some flying for the movies and was in the old-time silent thriller, "The Hazards of Helen". There an ambitious youngster fast-talked Harry into giving him a free ride. Many years later he discovered the boy was Captain Frank Hawks who later became an internationally famous aviator.

The Christofferson Motor Co. of Redwood City, California, was incorporated in May, 1916 to build and market their aircraft engine, and a 12 cyl. Vee engine was also projected. In June they received an order from the Chinese Government for 25 planes. In July Frank Bryant became their school instructor and a class of 15 students was enrolled. Two other brothers, Harvey and Goodsell, also worked for the company and both learned to fly and contributed to the success of the enterprise. On October 31, 1916, Silas was killed while testing a new plane, which brought to an end a most promising and close brother team combination. This came when their future looked bright indeed, their growth had been rapid and well earned by hard work and enterprising judgment. The company continued on briefly, but Harry could not

carry on the business. The school remained in operation until about April, 1917, when Harry became Chief Instructor for the J. Paulding Edwards Flying School, San Carlos, California, flying a Loening designed Sturtevant Biplane secured from the U. S. Army at San Diego. In 1918-1919 Harry supervised the building of Curtiss JN-4 training planes for The Howell and Lesser Co. of San Francisco, who had a contract to build planes under Curtiss license for the U. S. Government. During 1919-1920 Harry built and experimented with a small, one-man, light weight biplane for sport, using an Indian Motorcycle engine, span 25 feet, weight 275 pounds, called the "Flying Bike". He advertised as the C-W-B Mfg. Co., San Francisco, offering complete plans and kits for home builders. This appears to have been his last active connection with building and flying planes, although he later served on the Airport Committee that selected the site for the San Francisco Airport and lent his assistance to this project.

Member of the Early Bird organization, Harry P. Christofferson now lives in retirement at San Francisco, where he has made his home for many years. One of the very earliest flying pioneers, he deserves great credit for the major part he played in helping to mould the actual foundation of the American aviation industry. A wonderful mechanic, he always kept his equipment in perfect condition and knew how to make his plane fly properly. He carried thousands of passengers and taught a great many students, never injuring one. An enviable record indeed.'

SILAS CHRISTOFFERSON

Silas Christofferson was born May 2, 1890 at Milford, Iowa, one of seven brothers. Later the family moved to Oregon, where Silas attended public schools at Salem. Mechanically inclined, he then engaged in automobile work and later designed and marketed a carburetor for automobile engines. In early March of 1910 Silas and his older brother, Harry, saw Curtiss aviator Charles K. Hamilton fly at Portland, Oregon, an event that decidedly influenced the future of their lives.

In May 1910 Silas formed the Bennett-Christofferson Airship Co. at Portland, Oregon. Incorporators were Fred A. Bennett, Silas Christofferson and Mabel A. Bennett. That year Silas and Harry built an aeroplane and an engine for it at Portland. It made one short flight and crashed, but it was the beginning of a most noteworthy career in aviation for both brothers.

During 1911, Silas went back to the automobile business, but his enthusiasm for aviation remained. In the early Spring of 1912 Silas decided to learn to fly, and managed to obtain the use of a Curtiss-type biplane at Sunset Field near Alameda, California. There, starting about April 1, he taught himself to fly with some help from Frank Bryant. On April 13 he had a bad smash-up but escaped serious injury. After the plane was repaired he continued his practice and made his first solo flight later in the month. During this period Silas and his brother purchased a second-hand Curtiss pusher from Norman DeVaux, a west coast automobile manufacturer. Returning to Portland with this plane, they prepared for the celebrated "surprise flight" which Silas made from the roof of the Hotel Multnomah in Portland on June 11. Taking off from a wooden runway they had built on the roof, Silas flew over the City and on to Vancouver, Washington, where he landed, about eight miles away. With very little flying experience, this was a very daring feat, to say the least, but he made it and gained nationwide publicity.

Following this flight, Silas proceeded to help Harry learn to fly with the plane at Vancouver, after which the two brothers toured the northwest for the remainder of the season, making exhibition flights. In July, the brothers bought a second new Curtiss-type biplane, with Hall-Scott engine, from the Peterson Aeroplane Co. of

San Francisco. They also fitted floats to the planes and did considerable flying from the water.

On August 19, Silas flew his hydro over and under the Portland Bridges in several flights up and down the Willamette River. September 11 and 12 he flew at Livingston, Montana, and on November 1, he and a newspaper reporter made two trips out over the wreck of the vessel Osprey off Marshfield, Oregon, in their hydro. They viewed the wreck but could render no assistance. While at Marshfield, Silas and Harry flew a 4-day exhibition engagement and carried passengers. In early November, an advertisement appeared in the aviation magazines: "Christofferson Aeroplanes - Biplanes of all types built to order, passengers carried - pupils trained, Portland, Oregon. Silas Christofferson, Designer and Builder." On November 19 Silas was married, and the newlyweds left on "an aerial honeymoon" up the Columbia River in a hydro.

In late November the brothers moved their business to San Francisco where the company started to operate in a small factory on Van Ness Avenue, and a Hydro Haven was established at Harbor View, on the famed San Francisco Marina. On December 6 Silas started flying his hydro about the bay area carrying passengers, including Mayor James Rolph of San Francisco and news photographers. December 23 he made a 35 minute flight over San Francisco at night with his hydro illuminated with red and green lights. Over the heart of the City he released thousands of hand bills advertising the Air Meet to open at Tanforan Race Track on Christmas Day. Silas flew his hydro at this Meet along with Lincoln Beachey, Thad Kerns, Tom Gunn, Bob Fowler and Roy Francis. The Meet ran from December 26 through the 30th and Silas was an active participant throughout the event.

In January 1913 this advertisement appeared in aviation magazines: "The Christofferson Aviation Co., Inc. 1417 Van Ness Avenue, San Francisco. Designers and builders of aircraft, thorough and efficient flight training." Incorporators were Silas Christofferson, Harry Twitchell and Ernest Hammer. Work was started immediately on two new Christofferson flying boats and the school got under way. On February 9, Silas flew his hydro through the Golden Gate and out to sea to meet the incoming steamship Cleveland, bearing Phineas Fogg, round-the-world traveler. Silas circled the ship several times and dropped a letter of welcome to Fogg from Mayor Rolph of San Francisco. In February, the Christofferson Company absorbed the ALCO Hydroaeroplane Co. (Loughead Brothers) and a large hangar was erected at Ft. Mason for two planes. The school now had several pupils, including Mrs. Silas Christofferson, who was progressing nicely.

In February, 1913 The Aerial Yacht Co. was formed by incorporators Silas and Harry Christofferson and Ernest Hammer, and later that month they announced completion of their first flying boat. This was a large biplane, seating three, and using a 110-120 hp Hall-Scott engine in the hull, driving a separately mounted high propeller by roller chain. The craft was an immediate success and they started demonstrating it to prospective customers, including the well known Arctic explorer, Roald Amundsen. April 19 and 20, Silas flew at an Air Meet at Sacramento, California, along with Roy Francis, Ed Bleakly, Tom Gunn and Thad Kerns.

All through the Spring months Silas made almost daily flights about the Bay area with his hydro. Amundsen ordered two Christofferson flying boats for use on his projected Arctic Expedition, to be capable of operating off the water or ice fields. These planes were built but not delivered to Amundsen. World War I changed his plans, and the planes were never used in the Arctic. On May 29, Silas carried J. Warren Hayne, well known wealthy San Francisco sportsman, out to sea in a flying boat to drop a message on the steamship Tamiti bound for Japan.

Christofferson flying boats were now flying daily and proving to be real planes, staunch and seaworthy.



Silas Christofferson: Early Aeroplane Pilot - Designer - Manufacturer.

On June 28, Silas demonstrated one of his flying boats at Portland, Oregon, and July 1-4, he flew at Everett, Washington. When he completed the engagement there, he flew to Seattle, Washington, a distance of 32 miles. On July 14, Silas started a 6-day exhibition engagement at the 1913 Potlach celebration at Seattle. Also flying were his brother Harry and John and Frank Bryant. In late August and early September, Silas and Harry were at Saltair, Salt Lake City, Utah. On September 14 Silas flew from Salt Lake to Provo, Utah, carrying 100 pounds of newspapers. Their school was also active that summer, and in the Fall Silas was put in charge of aviation events prior to the opening of the Panama-Pacific International Exposition at San Francisco, during which six planes were in service carrying passengers, and an Air Meet was staged every Sunday. This activity lasted through the Winter months of 1913-1914.

On February 9, 1914, Silas started on a flight from San Francisco to San Diego, and landed near Bakersfield, completing the longest one-day cross-country flight, 271 miles, made in the United States to that date. On February 11, he started for Los Angeles, but had difficulty in attempting to cross the Techachapi Mountains and was forced to return to Bakersfield to change engines. On February 16 he finally negotiated the mountain passes and flew into Los Angeles, 382 miles from San Francisco. After a rest there, he flew to San Diego. On April 20 he won a race from San Francisco to Bakersfield competing with Arthur Rabitski, Ed Bleakly and Frank Bryant. In May the Company started a regular scheduled aerial ferry route across the bay from San Francisco to Oakland, using Christofferson Flying Boats. The well known Weldon B. Cooke started flying for them on this route, which proved successful, but was not well patronized. On June 25, Silas flew over the summit of Mt. Whitney on his second attempt, reaching an altitude of 15,728 ft. He had

started his first flight early in the morning from Lone Pine, California, but had encountered very high winds and turbulence at 13,000 ft. and was forced to return. By mid-forenoon he tried again, and this time successfully crossed the summit. He later flew through a high valley to Bishop, 60 miles away. He used one of his new tractor biplanes powered with a Curtiss 90 hp motor, on the flights. On July 2 he flew across the desert from Oasis to Tonopah, Nevada, a distance of 64 miles. On July 15-18 Silas, accompanied by Harry, again flew at the Seattle Potlach Celebration. On July 20 he and his passenger, Carl Wallen, saved three persons from drowning at Seattle, Washington by the use of his flying boat.

In September, 1914 the Christofferson Company announced a new 100 hp Military Tractor Biplane, built to meet U. S. Army requirements. This had a span of 39 ft. seated three, had a tricycle landing gear and was powered by an 8 cyl. Hall-Scott engine. It was entered in the U. S. Army Military Aircraft Competition at San Diego, where it was taken for tests. As part of these tests, Silas flew it from San Diego to Los Angeles on September 26, carrying Lt. Joseph Morrow and his mechanic as passengers. On October 21 the Government called off the tests and abandoned the competition. During the winter months of 1914-1915, the brothers and Bob Fowler successfully operated passenger carrying flying boats at the Panama-Pacific Exposition waterfront.

In May 1915, Christofferson's business partner, Lansing Tevis, went to Mexico to sell an aeroplane to the Carranza government and returned with an order which kept the factory busy for some time. In June, the new Sturtevant powered Christofferson Tractor was announced. It was a biplane of 47 ft. span, with tricycle landing gear, seated three people and was designed to be assembled and disassembled quicker than any plane ever built. At this time the company had a tremendous passenger business and their flying school was growing rapidly. In August the factory was moved to Oakland, California to get more room for expansion. They were also starting to build an engine. In September, another new flying boat was brought out, with 49 ft. span, a capacity of three passengers, and using either a Curtiss or Hall-Scott engine mounted between the wings, with direct propeller. In October, a special plane was built for Charles Niles, the well known exhibition flyer, and about this time Lansing K. Travis joined the company. In November the new engine was ready for the first tests. Harry Christofferson had established a flying and passenger carrying service at Long Beach, California for the winter months of 1915-1916. In December the new Christofferson engine was formally announced, a 6 cyl. in-line, water-cooled unit, developing 120 hp at 1400 rpm and weighing 460 pounds.

In January 1916, the school was also moved to Oakland, and hangars were built to house several planes. In April, their motor passed the official tests and was fully described in the aviation magazines. It was a very creditable design for its time, and one showing excellent engineering and good sound mechanical judgment. In May 1916, The Christofferson Motor Co. was formed, the incorporators being Lansing K. Travis and W. S. Bacon. The new company acquired the engine interests of the Christofferson Aircraft Mfg. Co. and retained Silas as head of Engineering. A 12 cyl. 250 hp engine was also projected by the new company which was located in Oakland, California, with an eastern office at 61 Broadway, New York. In June the aircraft company announced an order for 25 planes from the Chinese Government, and Silas was also making a special effort to interest the United States Government in his planes. In July, the plant was again moved from Oakland to Redwood City, California, together with the school, where Frank Bryant was still instructing. In September their new Tractor Biplane was announced, having special wood monocoque fuselage construction, a new innovation.

On October 31, 1916 Silas Christofferson was killed

while testing a new plane at Redwood City. The engine stopped in flight and though he glided down normally to about 100 feet, something went wrong at that point, causing the plane to drive in. Following the impact, it turned over, pinning Silas underneath. His wife and two brothers witnessed the tragic accident, and rushed him to a hospital where he died soon after arrival, at age 26. Thus, suddenly ended his brilliant career and a most promising future in the aviation industry. Silas was buried in Cypress Lawn Cemetery, San Francisco, quite near his close friend, Lincoln Beachey. He had never obtained a flying license.'

Flying pioneer extraordinary, Silas Christofferson was a truly remarkable young man. For the short time he lived, his record speaks for itself. As a designer and technician he was a genius, a born leader and organizer. Had he lived, his company would certainly have become one of the leaders in the aviation industry. Always popular and well liked, he was highly respected throughout the early aviation fraternity. As a devoted family team, the Christofferson brothers certainly deserve recognition for the remarkable part they played in early American aviation history.

(The author wishes to express his appreciation to Harry Christofferson and to Willis L. Nye--A.A.H.S. Charter Member--for their cooperation in assisting in the research and for much of the information which has gone into the two preceding accounts of the lives and times of the Christofferson brothers. Without their help the two accounts would not have been possible.)

RUSSELL B. NORTH

Russell B. North was born in Windsor, Ontario, Canada on September 10, 1892. His parents were originally from Chicago, Illinois. As a boy he loved autos and at 17 took a job as test driver, working for Hupmobile, E-M-F and Ford, soon becoming an expert with engines.

In 1914, North became seriously interested in joining the Canadian Flying Corps, but they were not taking many recruits due to lack of equipment. He and a friend



Russell B. North: Early Michigan Aviator - Mechanic - Plane Builder.

started an auto filling station and repair garage, one of the first in their community, and North continued his attempts to enter the Flying Service. He was finally told his enlistment would be accepted IF he had an American flying license. The nearest place he could get instruction at that time was the O. E. Williams Flying School at Fenton, Michigan. North entered the Williams School in December 1915.

The school was operating off the ice of Long Lake near Fenton, using land planes of the Curtiss Pusher type. Due to his experience with engines and cars, North was a particularly apt pupil and began making solo, straightaway hops after very little instruction. Flights the length of the lake by the students were considered to be quite a feat, a landing being made after each straightaway, the plane being turned around and the return take off made. On one of his first lake-long hops, North landed hard and broke a wheel. Unable to fix it, he spun the plane around under power and took off. Instructor Williams was frightened to see him approaching in flight, minus one wheel, but when North set the plane down gently and balanced his roll-out without a ground loop, Williams was so elated he hired North at once as a member of his organization. North continued his instruction and flying practice, meanwhile working in Williams' small aeroplane factory and helping build and develop planes which he and his classmates flew. During this time North made rapid progress with his flying ability and was soon making flights over Fenton and the surrounding vicinity and even undertaking some altitude flying. That winter he also built a propeller driven ice-boat which was used on the lake.

In February 1916, North applied for license tests from the Aero Club of America. Owen Armstrong, an automobile spring manufacturer in Flint, Michigan had been appointed official observer for that locality. A Recording Barograph was a necessary part of the regulations and one could not be obtained at that time, so the tests were deferred.

As a result, North continued his flying and association with Williams until early spring, when he started exhibition work for the company through Texas. While there he helped establish a second flying school for Williams at Jaco, Texas. During an exhibition at Galveston, Texas he had his first smash-up. Shortly after taking off from the beach his crankshaft broke and in attempting to land back where he had taken off, he saw that many of the spectators witnessing his flight had crowded onto the beach. To avoid injuring these people he ditched his plane in the surf, seriously damaging the plane although he was not hurt. He shipped the wreck back to Waco and got another plane to fill the engagement. Later, at Smithville, Missouri he had another smash-up, in taking off from a small curved race track at a fair grounds. Immediately after leaving the ground the copper tips of his propeller came off, and after jumping the grandstand he found himself heading straight for a large tree, so he turned back into the race course infield where he landed on a fence. Again he was lucky and was not injured.

Following this he returned to Michigan, left Williams and joined the Janney Aircraft Company of Monroe, Michigan to help build a new plane. The company soon went out of business and North secured an exhibition engagement in September at Windsor, his home town, to fly at the local fall fair. There, while stunting, his motor quit, forcing him to attempt a landing in a plowed field. The ground was so soft he turned over and smashed up, being pinned in the wreckage in such a manner that the radiator spilled scalding water over the upper part of his body burning him severely, and he very nearly had to have an arm amputated. This accident grounded him for some time and left him unable to pass a military physical for World War I flying, which was his most cherished ambition. After his recovery, he became assembly supervisor and test pilot for The Fisher Body Company in the spring of 1917. Working on

the DH production program, he remained in this job until December 1918. On the program he helped build and deliver over two thousand DH-4 planes with Lincoln, Marmon and Buick built Liberty-12 engines. North had the honor of delivering the first DH-4 to Selfridge Field, Mt. Clemens, Michigan. At the termination of his work at the Fisher Body Company, North was given a special citation by Mr. Edward F. Fisher for his valuable services to the company.

After World War I, North went to work for the Thompson Aeroplane Company, Detroit, Michigan, as a mechanic and flying salesman. The company was in the business of buying War Surplus airplanes at disposal sales and converting them to civilian use. This included many conversions into flying boats, a type which found a ready market in the Michigan lake areas. Here he enjoyed several months of uneventful work, then near tragedy caught up with him again, and he suffered the worst crash of his flying career. A plane had been fitted out with a reduced size seating and cockpit arrangement for a small man, and North attempted to check the plane out before turning it over to the customer. Being a large man, North had to squeeze himself into place and while in flight his trousers caught in a pulley, jamming the controls. In his jackknifed position he was unable to free himself and crashed into tree-studded Belle Isle, Detroit, Michigan and was severely injured.

North, however, made a miraculous recovery after a long, determined struggle. By that time the Thompson Company had gone out of business so North started converting aeroplane engines for racing boats and soon made quite a name for himself in marine circles. During this work, North again made a flight in a flying boat in an effort to find two men reported to be lost on Lake St. Clair in a canoe. With an observer, North searched the lake from the air until fuel troubles forced him down in the late evening. The flying boat drifted all night, finally coming ashore in the morning on the Canadian side of the lake, where the two men beached and reported that they were safe.

In the mid-twenties, North joined a farm implement dealer, W. M. Blair, in Chicago, who had taken the agency for the new Monocoupe aeroplane and needed a man to handle the project as mechanic and pilot-salesman. The job also required North to assist in the implement business when there was nothing else to do. While on the job, he worked up several new ideas in implement attachments for grading, digging and loading. Later, with Blair's help, he developed a new line of lifts and hydraulic equipment and eventually gained considerable recognition for devising such equipment.

During this interval, North had continued to demonstrate and sell Monocoupe planes in the Chicago area, but a few more forced landings and close escapes led him to make up his mind to quit flying. Shortly after this, the Trackson Company of Milwaukee, Wisconsin induced North to join them to develop a line of heavy, earth moving equipment, and there he remained until the business collapsed in 1929 and the company went out of business. He then returned to Linden, Michigan and developed a motorized snow sled for operation in the Far North. Following this he went with the Pontiac Motor Car Company as Tool Engineer, and there he remained until his retirement in 1957.

One of Michigan's first aviators and a devoted, hard working flying pioneer, Russell B. North resides in Linden, Michigan where his retirement hobbies are fishing, hunting and camping. He has a wood working shop where he enjoys making things when time permits, and he still flies occasionally with some of the local pilots. He deserves a special measure of credit for his courage and determination to carry on in spite of the several, serious accidents he suffered during his flying career. His faith and devoted efforts to flying contributed much to the development of American aviation.