PUBLIC SCHOOL TEACHERS' DEPARTMENT

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WILLIAM T. PIPER, SENIOR, LEADER IN THE LIGHT-AIRPLANE INDUSTRY

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At Knapps Creek, New York, to Thomas and Sarah Maltby Piper was born on January 8, 1881, William Thomas Piper. By 1899 he had graduated from the high school at Bradford, Pennsylvania, a comparatively wealthy community in an oil region, and served in the Spanish-American War. In 1903 he received a bachelor's degree cum laude from Harvard University, one year ahead of Franklin D. Roosevelt. He began his career as a construction engineer with the United States Steel Corporation at Lorraine, Ohio, working for that company from 1903 to 1906. During the next ten years he followed his profession in various parts of the United States.

On July 30, 1910, the future leader in the light-airplane industry was married to Marie van de Water of Buffalo. The couple had five children, all of whom are living: William T., Jr., who is now secretary of the Piper Aircraft Corporation, Lock Haven, Pennsylvania; Mary (Mrs. Bolles, California); Thomas Francis, called "Tony," who was formerly with the company and is now a flying instructor in the Field Artillery with the rank of captain at Fort Sill, Oklahoma; Howard, called "Pug," who also was formerly with the company and is now a naval-base pilot with the rank of lieutenant (junior grade) at Quonset Point, Rhode Island; and Elizabeth (Mrs. Harford, California). There are seven grandchildren.

By 1914 Mr. Piper was back in Bradford, where he had spent his youth. He soon formed a partnership to produce oil. Though his efforts did not bring sensational returns, they netted a comfortable living for him and his family. When the nation went to war
in 1917, Mr. Piper tendered his services to the War Department and was commissioned a captain of engineers.

In the late 1920’s the Bradford Chamber of Commerce was looking about for promising young industries for the city. Two brothers in Rochester, New York, who were building airplanes in a small way at this time were considering moving to a new location. One was killed at Detroit while demonstrating his airplane; the other, C. G. Taylor, came to Bradford in 1929 and there continued the operation of the Taylor Brothers Aircraft Corporation—one of the many aviation companies formed about this time throughout the United States because of the widespread interest in flying—with money furnished by Bradford citizens. Mr. Piper became a member of the board of directors.

Heretofore Mr. Piper had been indifferent to aviation. But now he had a definite interest in it as an investor and a company director. Too, his three growing sons were very much air-minded. It was only natural that he should eventually become an enthusiast. In 1931 at the age of fifty he learned to fly one of his “Cubs.” He obtained his private flying license and has maintained it “currently effective” ever since.

Taylor Brothers had hardly put “the Chummy,” a four-thousand-dollar airplane with a hundred-horsepower engine, into production when the depression came. The aircraft market was all but wiped out, particularly for expensive planes. In 1931 the company went bankrupt. The other stockholders dropped out of the venture, but Mr. Piper put in more money. The new Taylor Aircraft Company, with him as director and treasurer, was organized with the idea of producing a small airplane which could be sold and flown more economically than existing ones. This plane was designed primarily for the flying-school operator, who at the time had to use expensive-to-operate machines, most of which were highly powered with war-surplus OX-5 engines. The first “Cub” had been test flown on September 12, 1930. Its name was derived from what seemed to correspond with that of the engine—“Tiger Kitten”—which was manufactured by the Light Foundry Company of Pottstown, Pennsylvania. The term proved so popular that it soon became practically a common noun used to describe any light airplane. A twenty-horsepower engine was tried but found too weak. As developed the plane was a two-passenger open monoplane with a thirty-seven-horsepower engine.
This model, E-2, went into production in 1931, but sales were slow: twenty during that year, twenty-one the next, sixteen the next, and seventy the next. These were lean years of dire struggle. Mr. Piper had to pour in more and more money from his oil business. He did not take out any salary for himself. The payroll was met with difficulty. Many a time engines were held at the freight station until someone made a down payment on a plane. In turn the money was used to release one of the engines to go into a new plane.

The E-2, although it was slow, uncomfortable, and sluggish in performance, heralded the dawn of a new era in aviation. Operators, while scorning it for its low power and glider type of action, realized that its economy would keep their flying schools in business. By 1935 a cockpit enclosure had been added for comfort in cold weather. The next year a new model, J-2, was introduced. It showed distinct improvement over the old—less angular lines, rounded wing tips, and wider landing gear—and its production soared to a record-breaking five hundred and forty-one. The ambitious little company at last seemed to be on the road to good fortune. In 1936 Mr. Piper even indulged in a new car. This same year he bought out Mr. Taylor’s share and became president, treasurer, and chairman of the board; his former partner went to Alliance, Ohio, to start Taylorcraft.

During this period the company was manufacturing planes in a hangar at the Bradford airport. At first all the work was done in one building, from welding to final assembling. As demand for more production increased, additions were made to the original building in the form of long L’s, eventually giving a floor space of thirty-six thousand square feet. The plant was worth about two hundred thousand dollars. Since it was a frame building inaccessible to the city water hydrants and since the process of “doping” was very hazardous, however, the fire-insurance rates were too high for the struggling company to afford coverage of more than about ten thousand dollars. On St. Patrick’s Day, 1937, while attending an aviation convention in California, Mr. Piper received sad news by telephone. He no longer had an airplane factory. Fire had broken out in the dope (airplane paint) room and consumed the entire plant.

But jigs and tools were salvaged immediately, and within a week a Cub was built. The various departments worked in
garages and empty buildings throughout the city of Bradford. In the meantime Mr. Piper scouted about for money and a new and more accessible location for a factory. At Bradford the airport was not convenient, seaplaning had to be done fifty miles away, and the standard of living was too high for what the struggling company could pay its employees. An abandoned silk mill at Lock Haven, Pennsylvania, was suggested. Already some of the young men of the community were associated with the firm. The main objection to the place was that it was too large, a fact which was to provide ready opportunity for expansion when the boom for planes arrived. The modern two-story fireproof building had a floor space of a hundred thousand square feet. Its sixteen acres of adjoining ground was next to the airport. The West Branch of the Susquehanna River gave excellent facilities for seaplane flying. The works of the factory and about two hundred employees were transferred to Lock Haven on July 4, 1937. Despite the disturbance of fire and moving, six hundred and eighty-seven J-2's were built during the calendar year. In November the name of the company was changed to the Piper Aircraft Corporation. Mr. Piper's year of trouble ended sadly with the death of his wife in December, 1937.

The acquisition of the new plant laid the groundwork for revolutionizing plane manufacturing. Many of the straight-line production techniques now used in the manufacture of military planes saw their first use in the Cub factory. In order that the most efficient constant-flow methods might be assured, a highly reputable industrial engineering concern was retained to set up the new machinery. At first all manufacturing operations were done on the first floor of the building, but soon it was necessary to expand several departments to the second floor; the eastern half of the entire building was devoted to final assembly.

Among the most outstanding developments which speeded construction was the "ferris wheel" in the dope room. This rotating device, which had a capacity of twelve wings and six fuselages, enabled the workmen to spray the units with maximum efficiency; by the time each unit came around the second time, it had dried sufficiently to be painted again. Production was stepped up at least ten per cent by the introduction of a suspended assembly
line, which consisted of an overhead monorail system connecting
with all departments by means of switches, crossovers, and sid-
ings. A fuselage or wing on leaving its jig was put on this
"railroad" and passed at a steady pace for more than a mile
through all stages of installation and painting direct to final
assembly.

In 1938 an improved version of the Cub was brought out. The
J-3, which had a forty-horsepower engine, was known as the
Cub Trainer; the de luxe model was called the Cub Sport.
Priced at $995, the Trainer was the first airplane to retail for
less than a thousand dollars. It was as much a sensation in the
aviation world as the cheap Ford was in the automobile field.
During the summer experiments were conducted with new fifty-
horsepower engines, introduced by Lycoming, Franklin, and
Continental. The extra power improved the take-off and in-
creased the speed and load-carrying capacity, adding greatly to
the popularity of the light airplane. Seven hundred and thirty-
six Cubs were produced during the year.

Development was started on a new Cub, larger and faster
than the Trainer, with side-by-side seating. This model, the
Piper Coupe, J-4, was intended for private owners. It was
first shown at the 1938 National Air Races, and production
started early in 1939. A new conception of luxury in light air-
planes, it was equipped with hydraulic brakes, lights, compass,
and large gas tanks. Its original fifty-horsepower engine was
soon replaced by a sixty-five.

Flying was too expensive for the average American youth, and
eventually the government began to develop the Civilian Pilot
Training program. Over seventy-five per cent of the planes used
were Cub Trainers. The number sold in 1939 was 1,376,
making with other Cub planes a total for the year of 1,806. This
record surpassed any other the world over. It represented more
than half the nonmilitary airplanes in the United States and
sixty per cent of all light airplanes.

In 1940 additional improvements in design were made. The
Coupe was completely restyled by a Detroit industrial designer,
and a muffler was added which reduced engine noise perceptibly;
speed and range were stepped up considerably. The Trainer was
approved for sixty-five horsepower, which added much to its
performance. The Piper Cruiser, J-5, selling for just under
two thousand dollars, was brought out to meet the needs of
airport operators for a three-passenger plane which would be low in cost and in operation. It had a seventy-five-horsepower engine, dual controls, and hydraulic brakes.

Trainers, Coupes, and Cruisers were all in great demand. Indeed, back orders continuously ran around five hundred. It was therefore necessary to increase the factory floor space, and in June, 1940, the construction of two new assembly buildings, each four hundred by fifty feet, was begun. The additional facilities made it possible to achieve increased specialization of labor and to have fifty or sixty planes in the final assembly stage at all times. During 1940 a new record—3,016 planes—was established. Some weeks a new plane was pushed out the back door on its way to the compass room every twenty minutes. The next year more buildings were put up—shipping and crating quarters with an indoor railroad siding, a modern dope building, a warehouse, and an office building for housing the sales, accounting, and engineering departments. The floor space was now over two hundred and fifty thousand square feet. The United States Army gave final acceptance of the light airplane as an important factor in modern warfare. After three months of tests in maneuvers the Cub Trainer was found to be excellent for carrying messages and officers behind the lines and directing artillery fire by means of two-way radio. It was not long before the company was loaded with military contracts, and the number of its employees increased to about two thousand. The military version of the Cub Trainer, officially designated at first 0-59 and later L-4 and familiarly called "Grasshopper" and "Flying Jeep," has been delivered in quantity to the Air Forces and finds itself in all parts of the world. The Navy designation is NE-1. A hospital ambulance plane known as HE-1 and later AE-1 features a turtle deck which can be raised to allow secure placement of a patient on a litter to be transported to a hospital. Another plane produced is the TG-8, a three-place training glider. Since figures on military contracts are restricted, it is impossible to inform the public as to the number of planes the Piper Company has produced since the war began. It may be revealed, however, that during 1943 the firm did a gross business of almost twelve million dollars.

Newspaper headlines and magazine articles give some idea of the wide variety of wartime use and distribution of the Cubs.
A few selected titles are: General Clark Lands in the Streets of Naples (in Cub); Blood Plasma Flown to Anzio Beachhead (in Cub); Joe E. Brown Flies in Indian Mountains (in Cub); Mike Strok Pilots Margaret Bourke-White over the Cassino Battlefront (in Cub); Dick Remick Flies Cubs in South Pacific; Cub Pilot Out-Maneuvers Three Messerschmitts; Nazi Officer Calls Them (Cubs) Hell Raisers; Cub Led Isolated Unit to our Lines on Italian Front; Flying Jeeps Used in Burma Jungles by Stilwell's Men; Marines Use L-4 at Cape Gloucester; and Cubs Used in Artillery Spotting School in Africa.

On March 14, 1943, the XPT (Experimental Primary Trainer) was flown for the first time. A new design very much different from the old Cubs, it has low wings, a retractable landing gear, a forty-gallon fuel capacity, a six-hundred-mile cruising range, and a cruising speed of a hundred and thirty-five miles an hour. It may be converted into an instrument trainer. It has not yet been put into production and likely will not be for the duration.

In line with his enthusiasm for aviation Mr. Piper in 1935 promoted the organization of the Cub Fliers Club, composed of air-minded employees. The club, whose more than three hundred members make it the largest of its kind in the world, owns Cubs and hires instructors. Employees are thus given the opportunity to learn to fly for the small sum of a dollar and twelve cents an hour.

Mr. Piper has been unchanged in nature by the success which has made him the outstanding figure in the light-airplane industry. He remains a common, easily approachable man. He comes and goes among his employees, commanding their highest respect; his appearance in the plant causes no commotion. He lives a rather simple life, with reading his main hobby. He uses neither alcohol nor tobacco. His home while comfortable is not elaborate. His clothing is proper, but he does not try to be the best-dressed man in town. He travels considerably, usually for business purposes. On December 22, 1943, he was married at Jacksonville, Florida, to Mrs. Clara S. Taber of Plano, Texas. He still has his oil partnership at Bradford. He has charge of the Cub Haven Civil Air Patrol and is a director of the Lock Haven Hospital, a member of the Lock Haven Rotary Club, a director of the Aeronautical Chamber of Commerce of the United States, a member of the National Aeronautics Association, and a member of the National Aviation Training Association.