

EDITOR'S NOTE: Perhaps there never will be complete concurrence on which airplanes of the past have exerted the greatest influence upon today's general aviation aircraft, particularly the lighter planes, but there are certain ones which are definitely traceable to aircraft of 25 years or more ago. The designers of those pace-setting aircraft are many—some are still actively designing airplanes today, such as C. G. Taylor, Lloyd Stearman, Clare Bunch and Fred Weick, whose stories and views on today's airplanes are contained in these and the following pages. But there are many other designers and builders of aircraft,

both living and dead, whose brains and initiative influenced the development of the U.S. general aviation aircraft industry—the greatest in the world today—Clyde Cessna, W. T. Piper, Don Luscombe, Matty Laird, Walter Beech and Grover Loening, to mention a few. While the experiences and views of the people responsible for the high quality of today's general aviation fleet may vary widely, their objective in most instances was the same: the development of better and safer aircraft for personal and business transportation.

# Birth Of The CUB

*C. G. Taylor tells how original fuselage for Cub was chalked out on the floor of his home. Taylor Brother's Chummy was forerunner of famed single-engine plane that was to be produced by the thousands*

Most everyone in aviation has heard of the *Cub* airplane. For many, it was their first introduction to the joys of lightplane flying. Newcomers to aviation will think of the *Cub* with the preface of Piper.

However, before it was ever called the Piper *Cub*, the correct name was "Taylor *Cub*." Hundreds of *Cubs* were built by 1935 that carried the name "Taylor." And C. G. Taylor—he says the initials stand for "Center of Gravity"—is still very much in the aviation business. Today he's vice president (engineering) for Space Enterprises, Hemet, Calif. Their product, an updated version of the Anderson-Greenwood AG-14, a two-place, side-by-side pusher that was certificated (TC-4A1) in Houston, Tex.

"Five of these pushers were built in Texas in 1949-50, and they're all still flying," commented Taylor with a grin. "That must make them a pretty darned good airplane. Spacecraft bought No. 3 from Ed Phinney [AOPA 113813] of Oxnard, Calif., and we're using it for some minor modification work."

In the Spacecraft hangar at Hemet, a small crew of workmen are building two more AG-14's, with spare parts for one more.

"The next batch will be for 10 airplanes," explained Taylor. "We're using the first short-run to perfect our parts

list and tooling. Then you'll begin to see a good many of these pushers around the country. This basic design has many advantages; you can get in and out of it like a car, and visibility is excellent since you're ahead of the leading edge of the wing, and the noise is behind you.

"Flight characteristics are good—and we're going to make them better," said the engineer, who took his first ride in an airplane in 1916. From his home in Rochester, N.Y., he watched Calbraith P. Rodgers on his record-breaking cross-country trip in 1911, and made up his mind at that time that he was both going to fly and build airplanes.

Shortly after the end of World War I, "C. G." and his brother Gordon bought a surplus *Jenny* for \$700 and "changed it all around."

"We put on a metal landing gear, relocated the radiator over the engine, rerigged the wings, and moved the center of gravity forward, making it a much better flying airplane," he said.

"Perhaps you've never thought of it before," mused Taylor, "but Glenn Curtiss handed us a dirty deal in avia-

tion. Take any other type of vehicle and you push with your 'outside' foot when you want to turn. A child's wagon or sled, even bicycles, boats and automobiles, all react the same way. Yet in an airplane, you have to do the opposite.

"Most everyone has heard the stories about Clyde Cessna, who built his first airplanes with the rudders hooked up this way. He taught himself to fly in this manner. Even in later years, mechanics had to cross the rudder cables on any of the 'modern' airplanes that he flew.

"Personally, I believe that Clyde was right—but it's too late to change it all now."

Taylor was taught to fly by Jack Loomis of Binghamton, N.Y., in a *Jenny* in the spring of 1926, and immediately began working the barnstorming circuit in a *Jenny*, earning as much as \$500 per day passenger-hopping. "Sometimes I'd fly 'til way after dark," said the designer. "Once you'd made a few landings in a cow pasture, you knew where the trees and fences were and if there was any moon at all—or even a few city lights—you could make a circuit of the field well after sunset."

After modification of the *Jenny*, Taylor's first complete airplane was a four-place high-winged monoplane on floats, with a closed cabin for two under the wing and a side-by-side open

by DON DOWNIE  
(AOPA 188441)



cockpit in back for the pilot and one passenger. Actually, the plane was built up around a set of Sikorsky wings and had Edo floats. The powerplant was a 150 h.p. Hisso.

"It must have been a pretty good airplane," Taylor said with a smile. "Last I heard, it had been impounded by the Government for rum-running."

Then came the first of the Taylor lightplanes. It was called the *Chummy* and was the forerunner of the *Cub*. Thirty-five were built before the changeover. The first *Chummy*, a side-by-side, high-winged monoplane, was built in 1926 and powered with a 10-cylinder, 110 h.p. Anzani. Then production was moved to Bradford, Pa., on a community-sponsored proposition where the remaining Taylor *Chummy*'s were built.

"C. G.'s" brother Gordon was killed in the No. 2 *Chummy* when a passenger froze at the dual controls.

Then came the great depression of 1929 that affected the lives of everyone who lived through that era. The bottom fell out of everything, particularly light aircraft. Among other business operations, the *Chummy* factory closed after developing an open-fuselage single-place glider to sell to *Chummy* dealers.

"There have been a lot of stories about how Bill Piper and I first worked together and finally broke up," said C. G. Taylor succinctly. "When the *Chummy* line closed down, Bill came to me and said, 'I'll buy up the pieces if you'll put up the engineering and manufacturing know-how.' So that's how it all began. Bill Piper and I worked together from 1929 until 1935, and after that time the plant was moved to Lock Haven because the factory in Bradford burned down.

"My father, Arthur Taylor, was a tool and die-maker and an exceptionally good machinist. He helped me work out the tooling that changed the single-place glider into the *Cub*."

The original fuselage of the famed *Cub* was chalked-out on the floor of Taylor's home and the structure welded together in identical halves.

"There have been many stories about the origin of the name *Cub*. We all took a crack at something that would be popular, but it was Gilbert Hadrel, the accountant of our little company, who came up with the name *Cub*."

Dynamic and outspoken, C. G. Taylor gloried in the production line of the *Cub*. "When I left in the spring of 1935, we were turning out a new plane every day and a half." Then "C. G."

C. G. Taylor stands below an advertisement for a Taylor *Cub*—note the price: \$1,425

Photos by the author



**TAYLOR AIRCRAFT**

*The CUB IS* **SAFE**

**\$1425**

**SOUTHERN AIR SERVICES**







Space Enterprises officials and their product, an updated version of the AG-14 pusher. Taylor (left), vice president-engineering, and Roy Hubert, president, have their headquarters at Hemet, Calif.

chucked. "When Bill Piper's boys came back from college, we had an occasional word.

"After a number of differences of opinion, Piper decided that it was best for both of us to go our separate ways. Piper took over my interest in the factory and the Taylor *Cub* later became the Piper *Cub*."

Taylor moved to Butler, Pa., and began work on what was to be the popular "T-Craft." The plane went together quickly and Taylor took it out "for taxi tests" before test pilot Ken Tibbitts was scheduled to make the first flight.

"It taxied pretty fast, and I had it three feet in the air before I chopped the power," he smiled.

Production moved to Alliance, O., where thousands of Taylorcrafts were built before the beginning of World

War II.

C. G. Taylor is a graduate of the "University of Hard Knocks." He picked up his schooling as he went along and, judging from the number of airplanes flying today that carry the name "Taylor," this process of engineering training must be a very practical thing.

Always a production engineer at heart, Taylor took over the headaches of coordinator for the Waco CG4A troop glider that was being built under subcontract by the Gibson Refrigerator Company of Greenville, Mich.

"We had five completed gliders roll off the end of the line every 24 hours," he said proudly. In charge of production for the Gibson Company during World War II was Roy Hubert, now president of SpaceCoue.

After VJ Day, Taylor foresaw the

handwriting on the wall and went into nonaviation business while all the surplus military aircraft glutted the market. He stayed away from aircraft for eight years and operated three small manufacturing companies, building everything from refrigerators to furniture.

"I ran down my health on that job," he said frankly, "and hardly worked at all for the next four years."

An energy returned, Taylor went into consulting engineering. Among his designs was a revolutionary power-controlled dental chair that outsold its competition 3 to 1 and is still in volume production. Two new patents were issued on this particular chair.

In the meantime, Roy Hubert had come to California and became associated with the *Meteor*, a high performance, four-place twin that was in the process of FAA certification. He called Taylor to join him.

"My wife had just had four hard falls on the ice back East, and I wanted to get out of the area, so I agreed to join Mr. Hubert," said the engineer. "We had the *Meteor* 80% certificated when a new management group bought their way in—and we were out. The *Meteor* is a fine plane, but it's still just sitting," he said with regret.

"We began shopping around for something new to work on," explained Taylor. "I knew of the Anderson-Greenwood project from many years back, so I took a trip to Texas to talk with them. They had neither the time nor the desire to continue with the AG-14, so they gave us the exclusive franchise on this licensed airplane for a very small down payment, particularly because of my long reputation of being able to produce good airplanes. They both had a justifiable pride in the airplane they had produced and wanted to see it in wide use.

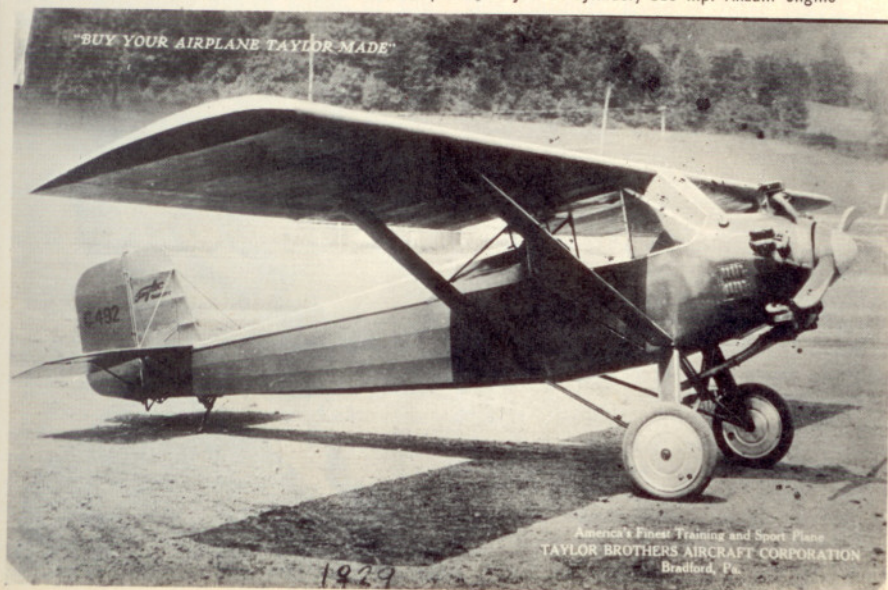
"Just like everyone else starting a new venture, particularly in aviation, our main problem is financial," said the designer. "It seems that only a few people want to get into the aviation business, but I personally feel that for perhaps the next five years, the smaller companies will still stand a chance of making a go of it. It'll be a darned hard race, but there's a spot for the smaller developer.

"After five years from now, I doubt that these opportunities will exist because the larger manufacturers will have the field pretty well sewed up."

Transportation, according to Taylor, has been a steady succession of advances where the few people with money pioneered each step of development. "When everyone was walking, it was the plutocrat who had the horse and buggy. Later the man-with-money bought the early horseless carriages. When airplanes came along, the same type of person financed this new form of transport. And in each step forward, mass production techniques have been able to bring the costs down so that the man with the average income has been able to 'step up' to each new form of transportation.

(Continued on next page)

An advertisement for the Taylor "Chummy," a forerunner of the Taylor Cub. The Chummy, a two-place side-by-side plane, was first built in 1926 and was powered by a 10-cylinder, 110 h.p. Anzani engine







"C.G." and an early model of his Taylorcraft, which became widely known as "T-Craft"

"I believe that it's merely cost—not fear—that keeps most people out of the air today."

Taylor believes that the "black boxes" of today—radios, autopilots, sophisticated blind-flight instrumentation—are good, except that they tend to scare a lot of people out of ever getting into aviation. "If we can make planes with lower landing speeds, even if they are for shorter hops, they'll naturally be safer," he commented. "The original *Chummy* landed at 38 m.p.h. Today's planes cruise a great deal faster, but much of this has been done at the expense of higher wing loadings and higher landing speeds. Modern lightplanes are certainly efficient, but they do land a bit 'hot.'"

When he starts to talk about the AG-14, Designer Taylor gets a youthful glint in his eyes. "We don't want to change it much right now, just build it. We've received over 50 orders without trying. Most people forget that there are a great many pilots who just like to fly for the fun of flying. If they cruise at 100 m.p.h. or a little more, and don't have to spend too much money, they're happy. The 'puddle-jumper' is a long way from being obsolete."

"My first job with the AG-14 is to bring the drawings up to date. That's almost done now, as is the bill of materials. Then we'll clean up our tooling and start airplanes rolling out the door."

"After that, there are a lot of little things that I want to work on; changes in wing-tips and flaps and a major cooling modification, that will appreciably decrease drag. There's a lot of hard work ahead, but it should be a lot of fun. The basic design naturally lends itself to a larger plane." Since C. G. Taylor's reputation for the past 33 years in aviation has been highlighted by good tooling, there will undoubtedly be a steady line of AG-14's rolling out the hangar door before too long.

"Looking ahead, I don't see a turboprop in this type of plane," commented Taylor, "unless there's a lot more efficiency than is available today. If we let the cost creep up, flying becomes too restrictive. It is my feeling that there are many people today who want to fly for the sheer love of being in the air. They can't afford 'twins' or some of the larger single-engine jobs, but they can still dig up the money for an inexpensive, easy-to-fly lightplane. That's what we hope to have, soon and in volume."

Taylor sees the future of general aviation as brighter than ever. "The military people are going out of aviation to a large extent and putting their emphasis on rocketry. This actually gives us back much of the airspace—and the airports—that have been off-base for many years."

"Now, the more planes we get into the air, the more pressure will be put on towns to have airports. It has been most encouraging to me to see where the State of Alabama is using state funds to encourage every town to have some sort of an airport. After all, the efficiency of the airplane as a means of transportation increases with every new airport that is built—and decreases whenever an existing airport is gobbled up by a subdivision."

At the conclusion of this interview, Roy Hubert took the AG-14 out for a test flight, part of the program of certifying the C-100 powerplant. (The original aircraft was powered with C-90 that is no longer in production.) C. G. Taylor walked out to the flight line and watched the little pusher make a series of touch-and-go landings.

"You know, I haven't flown that ship since we moved here to Hemet," he said with a youthful twinkle in his eyes. "I have an up-to-date license. As soon as the flight tests with the new engine are completed, I'll brush up on my landings and do some more flying in this nice bright sunshine." ●