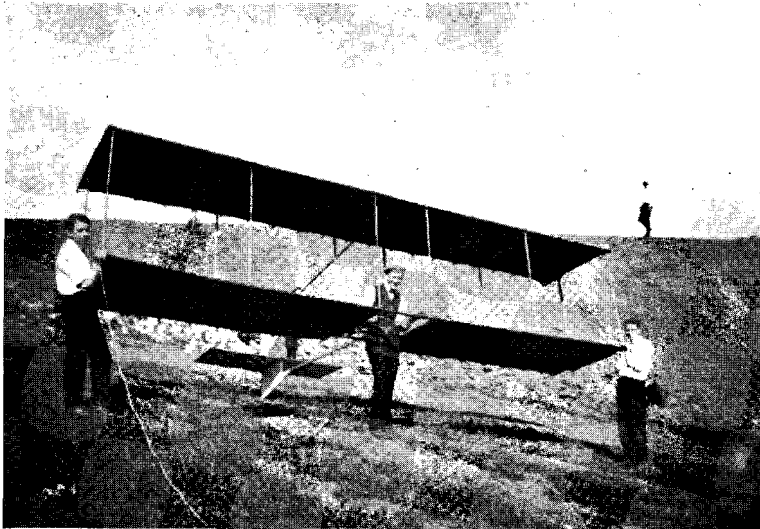


Hang and

By Percy Pierce

EDITOR'S NOTE: *This month our story of actual flying experiences written by the pilot changes from modern soaring in high performance sailplanes to short glides in early "box-kite" gliders. Mr. Percy Pierce, the author of this article, is President of*

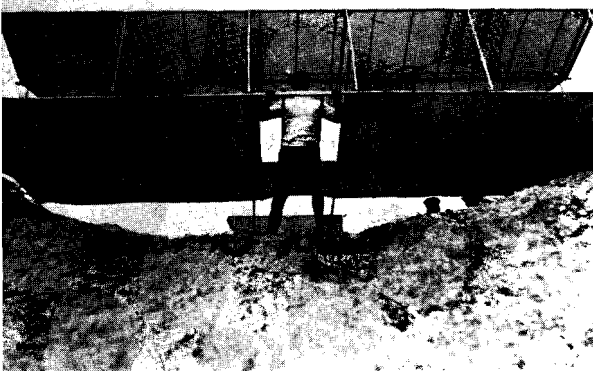


The author in his hang-type glider of 1909

MANY of you have used parallel bars in the gym and know what it's all about, but some twenty-eight years ago I was just learning this art of swinging around the bars. Those bars were not supported on a steady gym floor either, but were in the "pilot's cockpit" of a hang glider which I had built.

Today's sailplanes and gliders are operated by the controls which change the center of pressure to balance the plane, while the stability of hang gliders is maintained by the shifting of one's body and legs, thus changing the center of gravity. I know my early gliders would never have been licensed by the Bureau of Air Commerce had it been functioning then, for no stress analysis was made and had there been it would have been far below par. Yet these gliders flew as flying went in those days. I guess the risks I took in those "crates" of breaking my neck never entered my mind for after making many gliders over a period of four to five years, all the injuries I had to show were a few scratches.

The biplane shown in the illustration was built with a white pine framework held together with three-sixteenth inch stove bolts. Stranded picture wire was used for



Chanute hang glider of 1907

the structural bracing, which I soon found had almost as much stretch as so many rubber bands. Modern flexible wings had nothing on the wings of my early gliders. The top wing, with a span of eighteen feet and a chord of four feet, had an over-hang of one and a half feet. A vertical, stationary rudder was behind the wings and a movable elevator in front. This latter was found quite impracticable in the early trials, as it was impossible to hang on the parallel bars and operate the elevator with one's hands at the same time.

I can remember taking off a slope near my home in the spring of 1909 to make a glide of about twenty-five feet. Just before landing, I pushed the control forward to ease off the landing, when a gust of wind nosed the glider up too steeply. The result was that it slid down backward, breaking the rear outriggers and nearly breaking my back. When I finally came to, the cross brace connecting the elevator control was under my chin and the rear wing spar and weight of the glider was across the small of my back. Thereafter, you can be sure, I discarded the front elevator and ended up by making a fixed vertical and horizontal surface at the rear.

As you noted, the control was just the opposite of present practice but quite natural in a hang glider, as in "coming in" the pilot's weight going forward would push the control forward, and nose the ship up for an easier landing, especially on one's feet. Flights of fifty to sixty feet were accomplished before the picture wire bracing gave way entirely and I replaced it with piano wire.

By the end of 1909, glides averaging 150 feet were made with my second plane constructed of clear spruce framework, covered with unbleached muslin and braced with number 16 piano wire. Thereafter, my interest in gliding was postponed while I managed to build model airplanes which made records for the years 1910, '11 and '12.

In the fall of 1912, I again started in earnest on a headless biplane glider called in those days the O-2-1