



THE BUMBLEBEE

Hawley Bowlus has developed an auxiliary powered two-place version of the Baby Albatross and has named it the Bumblebee.

The fuselage has been widened to allow a side-by-side seating arrangement; and the motor, a 4-cylinder opposed 2-cycle job developing 16 hp. at 3500 rpm, is installed on the aft point of the pod.

The ship was built by Nelson Aircraft Corporation, San Fernando, California, of which Ted Nelson is president and Hawley Bowlus the vice president.

Excellent performance is claimed for the Bumblebee, both as a glider and as a powered craft. Fuel consumption is 2 gallons per hour at full throttle and with a 3 gallon tank gives 1½ hours range. The cruising speed is 75 mph. On takeoff it will climb with ease at about 38 mph or 300 feet a minute to an altitude suitable for soaring.

The landing gear is the fully retractable tricycle type, operated manually by the pilot. The nose wheel is steerable with unique miniature shimmy dampers and a lock. The two rear wheels have special cam action, so that they may be tucked away in the fuselage at the proper angle. They also have independent, internally expanding brakes, designed by Bowlus, which facilitate taxiing on the ground.

A strut braced, high wing monoplane, equipped with the Grunau Baby type wing and the Bowlus pod and dual controls, the glider has a 47 ft. wing span and a wing area of 168 sq. ft. Its overall length is 23 ft.; height, 5 ft.; weight (empty), 465 lbs, with 350 lbs. allowed for two passengers; engine weight, 44 pounds. Horizontal tail surfaces are 16 sq. ft., vertical tail surfaces, 12 ft. Except for the boom of hollow dural, the glider is made entirely of plywood, with a molded shell for the pilots' nacelle.

* The instrument panel contains a conventional throttle, choke, mixture controls, altimeter, airspeed and sensitive rate of climb indicators. There is also a magneto ignition with impulse starter so that the engine will not kick back at any time, and a ratchet wire starter mounted on the crank shaft enabling either pilot in the cockpit to start and stop the engine.

The prototype was flown with a conventional wood propeller but is to be replaced with an adjustable pitch, full feathering propeller on future models. Diameter of the propeller is 42".

Provided on the front end is a conventional glider hook for towing if desired.

Designed especially for the soaring sportsman, the engine powered glider may also have practical purposes as a commuter from airport to airport for short business trips.

HANS GROENHOFF, with MRS. GROENHOFF and MISS CAROLINE IVERSON, aviation editor of *Life* magazine, recently spent some time in Elmira collecting photographs of gliders in action and material for an article on gliding which will appear in a coming issue of *Life*.

From *Flight*, October 11, 1945. "Two Spanish sailplane pilots, Miguel Ara and Vincente Juez, claim to have set a new world's altitude record for two-seater sailplanes by reaching a height of 18,372 feet over a small village near the Pyrenees."

CLASSIFIED ADVERTISING

5c per word, \$1.00 minimum.

FOR SALE—Bowlus Baby Albatross Sailplane. Single place. Complete instruments. Good condition. 1000 ft. tow line. With custom built trailer—\$500. Horace Tennes, 3240 Lake Shore Drive, Chicago 13, Ill.

BOOK REVIEWS

"Theory and Testing of Jet Propulsion Motors and Rockets" by Zygmunt Fonberg, 1945. Price \$2.00.

This book does not pretend to be an exhaustive treatise. It is an attempt to present simply the fundamental thought in the field of reaction motors. The essential thermo-dynamic considerations are included along with illustrative examples of the application of the formulas and definitions to the solution of problems in connection with reaction motors.

"Meteorology for Pilots" by Robert W. Mudge. Published by McGraw-Hill Book Company, Inc., 1945. Price \$3.00.

This text presents in everyday language the cause and effect relationships of weather phenomena. The author, former senior meteorologist for Northeast Airlines and a pilot, wrote from the viewpoint of a pilot without a background in physics and mathematics.

"Theory of Flight" by Richard von Mises. Published by McGraw-Hill Book Company, Inc., 1945. Price \$6.00.

A comprehensive book that covers all the theory of the flight of an airplane from wings to propellers. This text presupposes a background of calculus and general mechanics and aims to develop understanding of the fundamental ideas that underlie the design and the operation of modern aircraft. The serious worker in aerodynamics will find this book a valuable text.

"ANC-18, Design of Wood Aircraft Structures." Published jointly by the War Department, Army Air Forces; the Navy Department, Bureau of Aeronautics; and the Department of Commerce, Civil Aeronautics Administration. Obtainable from the Superintendent of Documents, Government Printing Office, Washington, D. C. Price \$0.75.

The latest revision of ANC-18 is probably the most comprehensive text available on wood aircraft structures and should be in the reference library of any glider enthusiast who has any intention of designing, building, or repairing wood aircraft structures.

FOR SALE

GLIDER PILOT'S LOG BOOKS

(Originated by the S.C.S.A.)

Price 50 Cents

HERMAN J. STIGLMEIER

S. S. A. Log Book Committee

5115 West 106th Street
Inglewood, Calif.