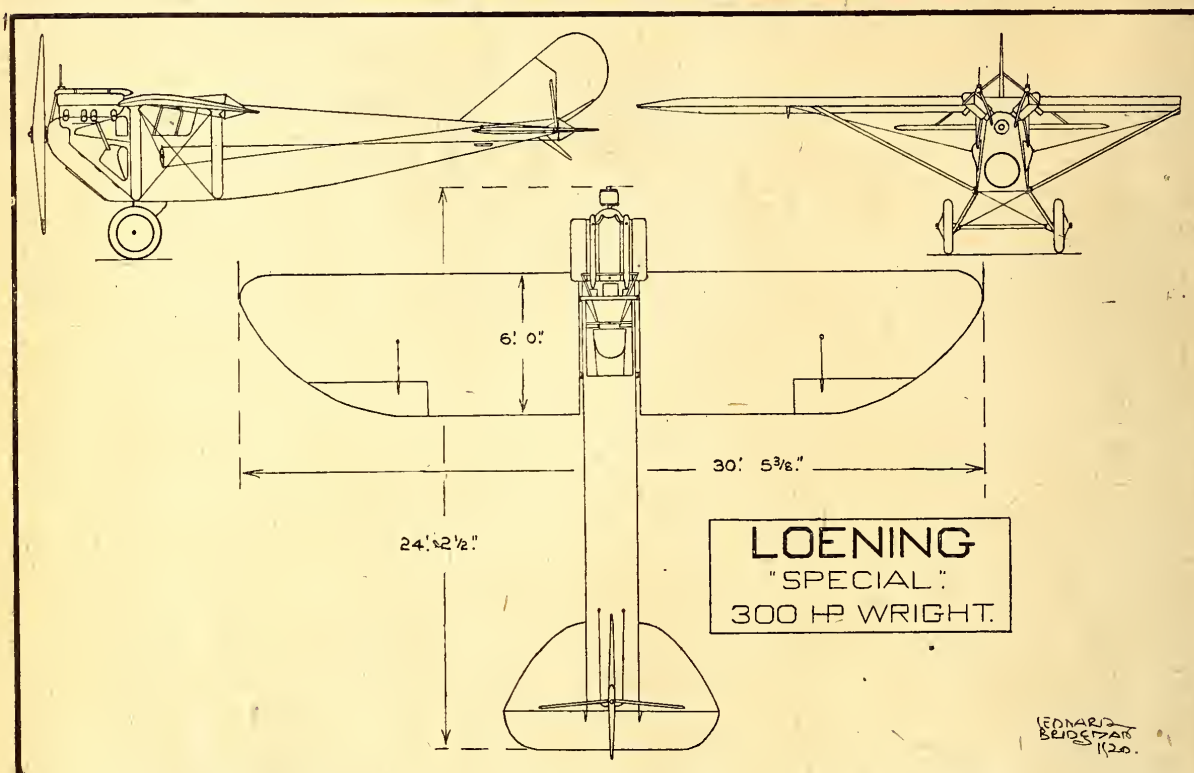


## THE LOENING SPECIAL RACING MONOPLANE.



A machine that created quite an impression in the recent Pulitzer Trophy Race was a Loening Special monoplane piloted by Lieut. B. G. Bradley, U.S. Marine Corps. It was entered by the U.S. Navy, and after covering almost the entire course at a speed of from 155-160 m.p.h. was compelled to retire about a mile from the finish owing to a broken water-connection which occurred whilst on the third lap, otherwise it would most certainly have finished somewhere between the first and fourth machines.

The fuselage is very deep forward and tapers to a horizontal knife-edge aft. The engine, a 300-h.p. Wright-built Hispano-Suiza, type H, is mounted in the nose, high up, both the cylinder blocks being exposed above the cowlings. The radiator is mounted below the engine, the air reaching it through an oval opening in the cowlings in a manner similar to that found on the Napier-engined D.H.16, D.H.18, and Fairey 21. Two streamline water expansion tanks are carried above the cylinder blocks.

The wings are attached to the fuselage by pin-joints, the wing spars passing right through from side to side, the short front and rear spars which correspond to those usually found in the centre-section of a biplane form two cross-members between the top fuselage longerons.

The pilot is seated in the fuselage between these two members, with his head just protruding above the fuselage. To improve his vision two openings are cut in the sides of the fuselage under the wings.

The wings have been considerably reduced in size as compared with the standard two-seater Loening monoplane, and the trailing edges have been cut away towards the wing tips, as shown in the scale drawing. Ailerons of small area are controlled more or less directly, the control cables running from the lower end of the joystick direct to a point on the front spar directly in advance of the aileron control bladders, passing round pulleys to the under surface of the ailerons. The compensating cable runs from the upper side of each aileron rim inside the wing just aft of the front spar.

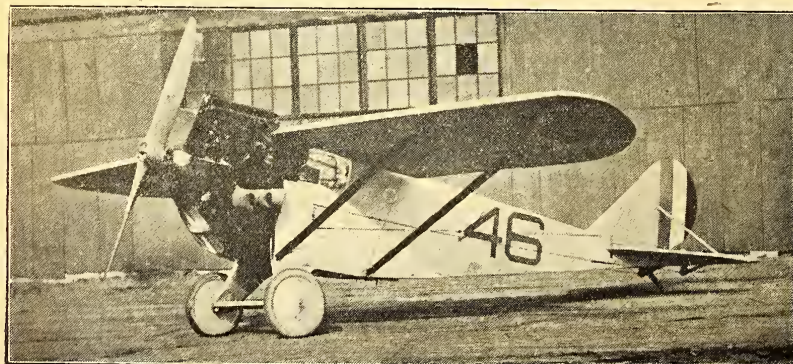
The wing struts are not of the lifting variety as used on the two-seater version, but are ordinary faired steel tubes, and run from the lower longeron of the fuselage to a point 6 ft. 8 3/16 in. from the body, leaving an overhang of 7 ft. 6 in. on either side.

The tail unit is standard Loening practice, consisting of a divided tail plane, single-piece elevator, fin and balanced rudder.

The undercarriage is very low and consists of two vees, the intervening space of which is faired, carrying an axle on rubber suspension. The tail skid is hinged to the rudder post.

## SPECIFICATION.

Wing span	.....30 ft. 5 3/8 in.	Chord of fixed tail planes,	.....3 ft. 8 1/2 in.
Overall length	.....24 ft. 2 1/2 in.	Span of tail	.....8 ft. 10 in.
		Weight (with water)	.....1,450 lb.
		Weight per sq. ft.	.....12.5 lb.
		Area of wings	.....148 sq. ft.
		Area of fixed tail plane	.....16 sq. ft.
		Area of fin	.....7 sq. ft.
		Chord	.....6 ft.
		Height (at wings)	.....6 ft. 7 in.
		Chord of elevator	.....1 ft. 8 in.
		Wheel track	.....4 ft. 7 in.
		Weight (loaded)	.....1,850 lb.
		Weight per h.p.	.....5.5 lb.
		Area of elevator	.....14 sq. ft.
		Area of rudder	.....6.5 sq. ft.



Three-quarter front view of the Loening Monoplane (300-h.p. Wright-Hispano) which flew in the Pulitzer Trophy Race.