THE EPB-1 "FLYING PLANK"

By JOHN A. POWELL

Photo—M. Claybourne

Co-Builders Easley and Powell after the latter successfully flew the "Plank."

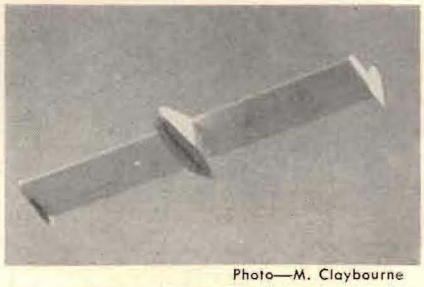
(Editor's Note: The EPB 1 was described in the July-August issue of Soaring, and the Stop Press section contained a secondhand account of its first abortive attempts at flight. Now read on and appreciate why all the TSA members are "eating crow" — all, that is, except Backstrum, Easley, Powell and Craik.)

After these first attempts at flight of the "Flying Plank," two modifications were made. The rear skid mount was removed because it prevented longitudinal rotation of the sailplane to a take-off attitude, and a Schweizer hook was bolted to the front of the skid. This was to prevent the forward pitching on take-off caused by the original wing mounted release hooks.

Early on Sunday morning the 8th of August, Craik, Easley, Backstrum and the writer, arrived at Grand Prairie Airport for further testing. The intended flight schedule was simple — auto-tow at 40 mph, see if it would fly, try again at 45 mph, and see if it would fly, etc.

Wriggling into the cockpit was no easier than it had ever been, but finally I was in and ready to go. Backstrum solemnly placed the bubble over my head — I fancy he was imagining it was a "halo" — while Eric Craik picked up the wing tip, Phil Easley, in the tow car, tightened the 300 foot long nylon rope and the whole operation moved forward.

The ground slide was very smooth, the shock mounted skid handling the bumps admirably. After a short slide, to my own astonishment, and in spite of all the dire prophets of doom, the "two by four" was 15 feet in the air and indicating 40 mph on the button. Forward pressure on the stick added another 5 mph and the ship began to overtake the tow car. After a short hop I released and landed straight ahead.



Photo—M. Claybourne

The 2 x 4 configuration is apparent in this take-off photograph.

The rest of the auto towing tests were strictly routine — up to 50 feet to see if it would turn, then up to 200 feet and a 300° circuit for a landing. Jubilant now we adjourned for breakfast and to call a poor tow pilot out of bed.

The first aero-tow was at 9:30 and the problem now was not how to get off the ground, but how to stay at the same level as the tow ship. At 70 mph indicated this required all the down elevator available, and, fortunately, the towing speed never exceeded this figure. I released at 3,500 feet and slowed down to 35 mph but could not make the 'thing' stall from straight and level flight. The speed was increased to 60 mph and the control action was still smooth and positive, stick loads being normal. A thermal encountered at 1500 feet was worked up to 2000 feet after which I left it and came back to land. It was obvious in this flight that rudder control was insufficient as it was difficult to make a co-ordinated entry into a turn.

During the following week Easley cut and bolted on to the drag rudders, extensions which doubled their area, and on Saturday the 14th aero-tows were made by Backstrum and Easley, neither of whom reported any trouble other than a tendency to yaw or snake on tow. Easley, because of his comparatively light weight, was able to make the machine stall at 30 mph.

Later the same day another TSAer, Marshall Claybourne, flew the "plank" and had no difficulty soaring for 45 minutes, and later on I flew it again to find that the drag rudder extensions were a big improvement.

All in all, I believe we have successfully fulfilled the original design requirements of low cost, simplicity, and ease of construction, and the fact that we can lighten and further simplify the structure is no condemnation of the present machine, but rather an indication of its strength.

Aerodynamically the aircraft is dirty and many improvements can, and probably will, be made, but as it stands I believe that any glider pilot can climb into this machine and fly it without experiencing the slightest trouble.

The "Flying Plank" with Jock Powell aboard on final approach.

Photo—M. Claybourne