CRACOW

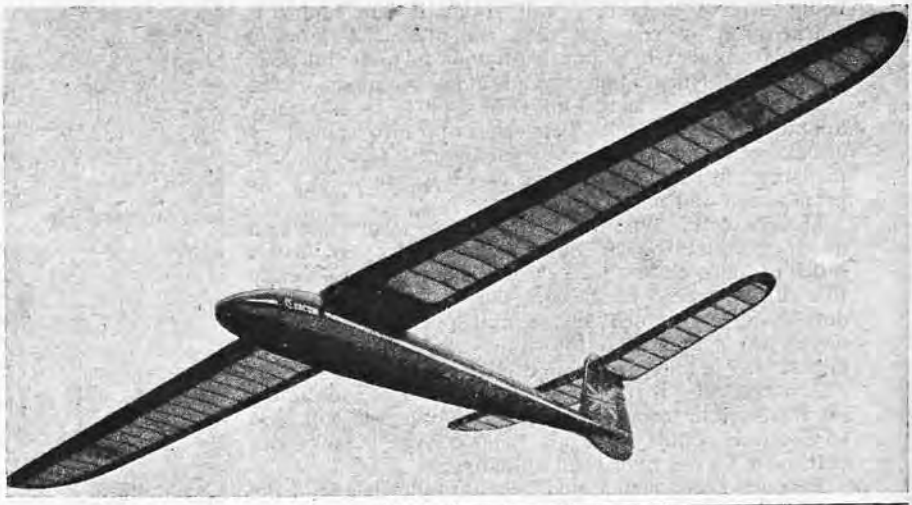
MARK II

A HIGH PERFORMANCE 72-IN. SPAN SAILPLANE

designed

by

L. GEORGE TEMPLE



A fine shot of Cracow in flight, showing its polished monocoque fuselage and high aspect ratio wings to advantage.

THIS highly efficient design by George Temple, whose name needs no introduction to aeromodellers, affords wide scope for that excellence of finish that can be given to sailplanes without undue worry on the score of unwanted weight. This is certainly not a "pocket-knife" model that can be chipped out in a few casual hours, but demands a degree of care and patience as the whole machine is constructed of ply and hardwoods—in the model aeronautical sense. When finished it is virtually indestructible and should offer very many hours of enjoyable soaring in the summer months.

Fuselage.

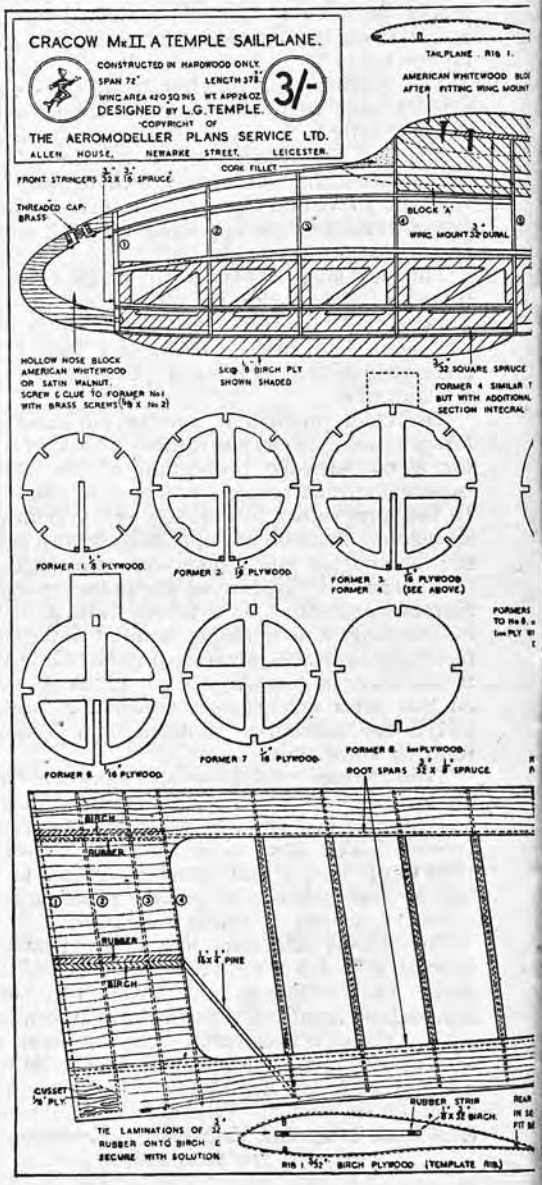
As usual the fuselage is built first. The circular formers should be cut from ply of the appropriate thickness and carefully slotted to take the stringers. Care at this stage will be amply repaid by smooth contours and well aligned wings. The skid and forward keel is made in one piece and will serve to line up the front formers. After this has set, using a slow drying glue, fit the top and bottom stringer and line up by eye, carefully binding them in place with thread or rubber bands until thoroughly set. Next add the two side stringers, and then the balance which extend to just aft of the wing fixing only. The underskid and tailblock should next be fixed and then covering with thin sheet may be commenced. This may be done in four pieces with care, but many will prefer to plank with a larger number of narrower strips. Either method is satisfactory. When about two-thirds of the circumference has been so covered and the fuselage is quite stout to handle the wing fixing blocks and the fin structure should be fixed in place. It is worthwhile to fit the fuselage in a temporary cradle on the workbench and carefully line up for this operation, as the whole success of the model depends on these being fixed exactly square. When this has been done continue with the covering and fair in the wing mount with cork as shown on the plan. The hollowed out nose block should be fitted after rough shaping, and sanded to the flow of the fuselage when fixed in place. A small portion of the covering should be left to enable the securing screws to be driven home. These are necessary as the nose takes most of the shocks in a bad landing.

Tailplane and Fin.

Before proceeding to the mainplane it is as well to complete the fin and build the tailplane. This it will be noticed has slight dihedral, a departure now recognised as desirable in high performance design. Beyond ensuring that this dihedral is built in correctly there is nothing tricky in this part of the work. The finished tailplane, and small upper fin sit securely on top of the main fin, and are held by stout rubber bands, thus enabling them to spring off in the event of a sharp impact.

Mainplane.

The high aspect ratio mainplane deserves care and attention. Built mainly of thin plywood it will take a lot of punishment, but



requires patience in building. The leading edge curvature is best obtained by bending the ply over a solid former and steaming to desired shape. Be sure to cap all ribs, top and bottom and fit refinements such as rubber buffers in the wing fixing tongue boxes.

Covering.

The model is now complete with the exception of covering. Some builders are content to sand and polish a fuselage such as this, but it is recommended that it be covered with bamboo paper if obtainable, or double-covered with tissue. The wings and tailplane should also be bamboo paper covered, or again a double covering of tissue. Of course silk if available is the ideal covering, but few will have any these days. The model should then be doped with full strength glider dope; rubbed down lightly with very fine sandpaper and doped again. Cellulose paint may then be applied, preferably by spray, or carefully by brush. Two or three coats give a delightful finish—how good depends on the painter's skill, but a true "coach" appearance *can* be achieved.

Flying the Model.

It will be noted that no provision is made on the landing skid for a towing hook, nor is this necessary for slope soaring, but if it is desired to fly the model from a towline then a small brass tube should be sunk into this skid inclined forwards at an angle of sixty degrees just below former number 4. Into this a hook of suitable gauge steel wire can be inserted in place of the more usual ring engaging with a protruding hook on the conventional model glider.

Test flights should be carried out in comparatively calm weather. Hand launch into wind, adding lead shot to the weight container in the nose until a nearly flat glide is achieved. Only when this is just right should towlaunching be attempted.

Full-size Plans.

Full size working drawings are available from Aeromodeller Plans Service, Allen House, Newarke Street, Leicester. Price 3/- post free.