

Yes! Why not? With everything in our modelling world becoming more and more complicated it is a welcome change to return to one of the more simple forms of flying. And for those who derive pleasure from the skill of physical effort lies the satisfaction to be gained from the efforts of a first-class throw.

THE chuck glider is often regarded as the lowest form of life in the model world, and a very unworthy cousin of the more popular types of model. But those who deride the chuck glider because of its similarity to the 2s. beginner's model only show how little thought they have given to the matter. Regarded in the proper light, it will be seen that they possess exclusive advantages. To name just a few, they are inexpensive, their solidity and small wind resistance enable them to be flown in almost any weather, and almost any place, and a fly-away is by no means an impossible achievement, so put your name on even this small model.

Few good chuck gliders are seen in this country, and this article has been written in the hope that it will arouse a greater interest in the model. A welcome step in the right direction was taken this year by the many clubs who introduced an event for chuck gliders at their galas.

Design

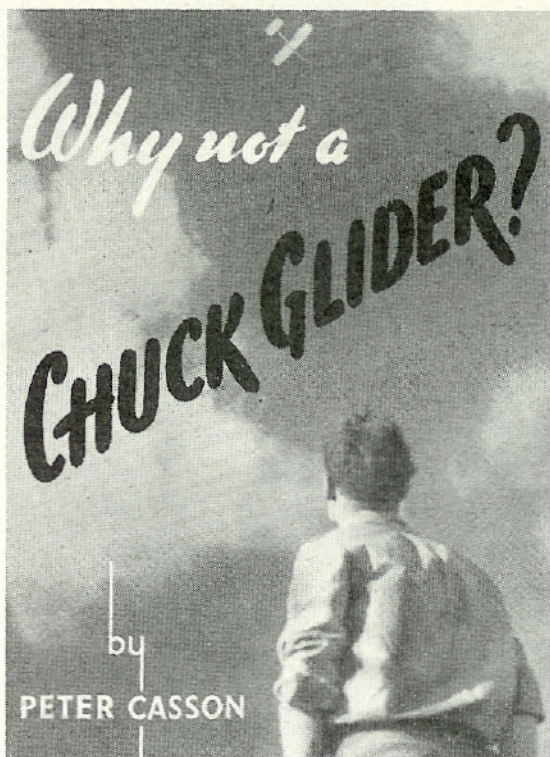
When launched they are called upon to withstand loads often 36 times in excess of those when in normal flight, due to the initially high velocity. Consequently, construction is usually solid. The high drag due to this speed tends to retard the model during the climb, and for this reason the frontal area is reduced to a minimum, while the skin friction is reduced by a smooth finish.

To guard against any looping tendency during the climb, a low lift section at 0° incidence is usually employed. This, together with about 10° sweep back on each wing and about 3 ins. of dihedral per foot of semi span ensures an efficient climb, and facilitates a quick pull out at the top before the model has had time to lose height. The best weight for a model of the size illustrated is between 0.4 and 0.5 ozs. and on no account should it be heavier than 0.7 ozs.

Construction

The model described here is perhaps smaller than that generally accepted as the optimum, although its consistent flight average of 45 secs. is proof of its suitability. The fuselage is very similar to the American style and is made from $3/32$ in. sheet spruce sanded to a streamlined section. The wings are cut from $1/8$ in. medium balsa and sanded to the section shown. When cutting the wings in half, the correct sweep-back is obtained by removing a triangular piece of wood with an angle of 20° at its apex, which is on the leading edge. The wing roots are then chamfered carefully to give one wing 4 ins. tip rise (2 ins. dihedral on each wing). The tail surfaces are quite straightforward, being from $1/32$ in. very hard balsa sheet. Note the opposite-grain gusset let in at the leading edge of the fin. This is to strengthen the fuselage at its thinnest and weakest point.

Before assembling, two coats of clear dope and a



good sanding should be given, as it is obviously easier to perform these preliminaries to each part individually. When assembling, give the wing fuselage junctions three separate coats of cement, each being applied after the preceding coat has had time to dry. The final gloss is obtained by giving one coat of grain-filler (a thick creamy mixture of clear dope and boracic powder), and thoroughly rubbing it off before applying several generous coats of thick clear dope, sanding down well between each coat. A useful tip is to mix a few drops of castor oil with the dope, as this gives a slightly better gloss. If the dope is thick, less coats need be applied, and consequently (the writer blushes) less hard work is needed in rubbing down.

Flying

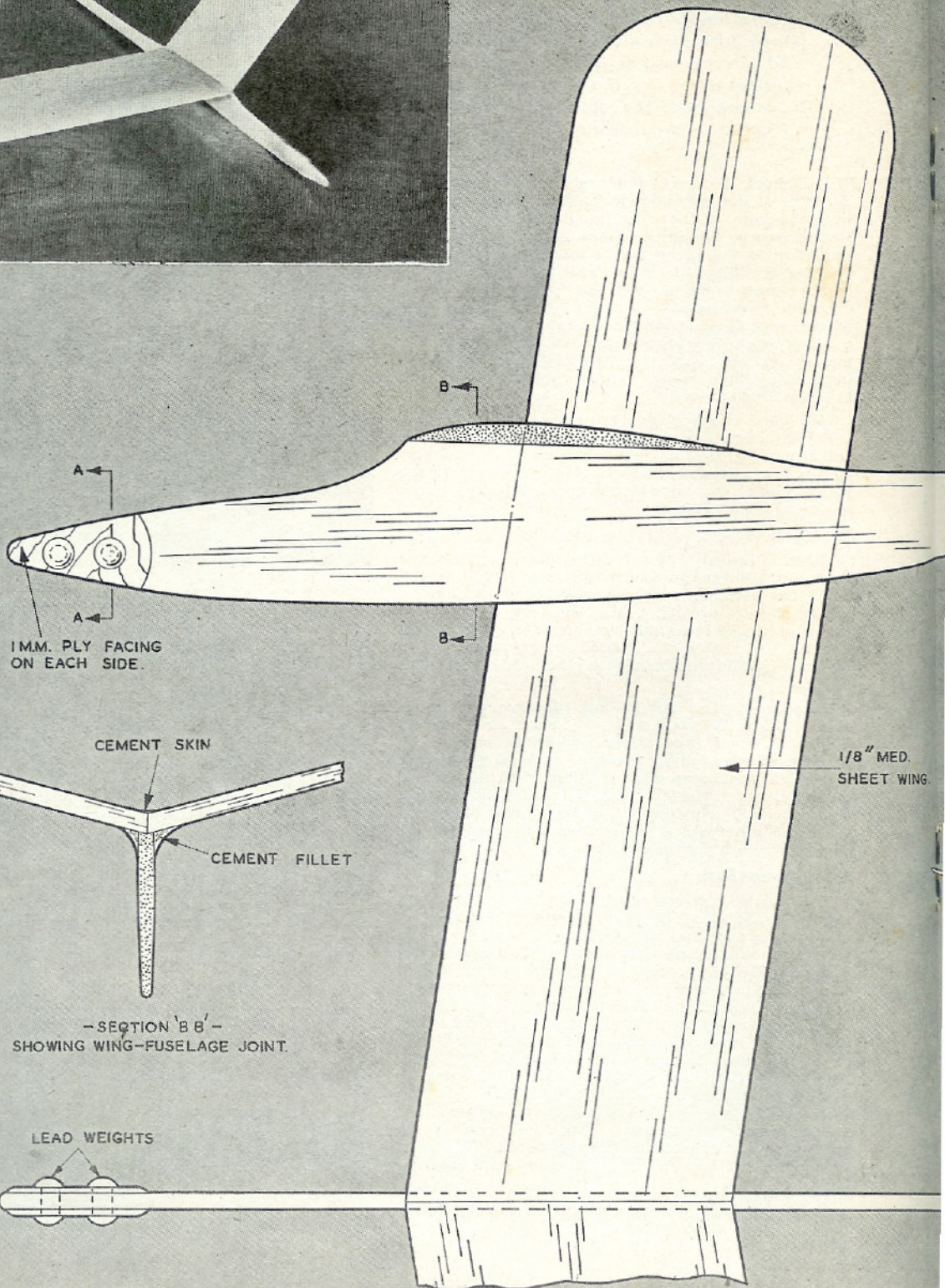
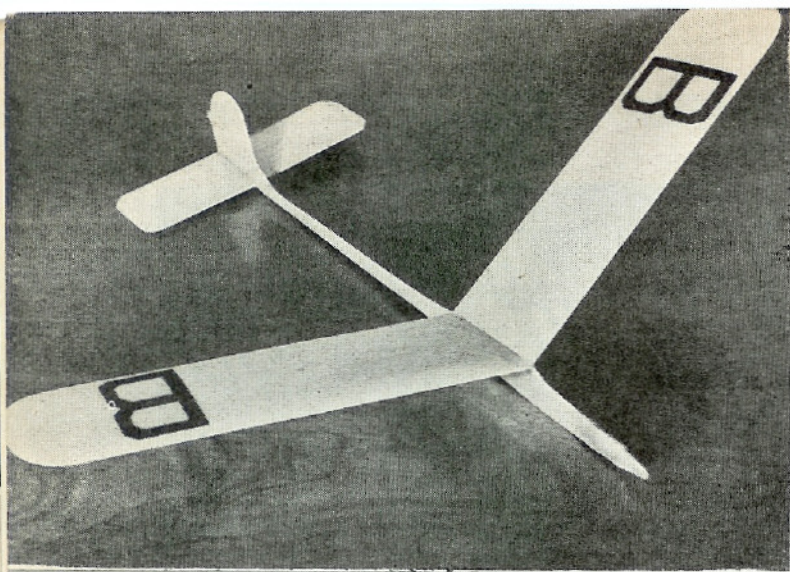
Trimming a chuck glider is the essence of simplicity, being performed by pressing small lead plugs into the reinforced nose, and cutting the plugs down until a long flat glide is achieved, after which they may be lightly riveted over. First see that the model is

(continued overleaf)

"I've had it!"



FULL SIZE PLANS.



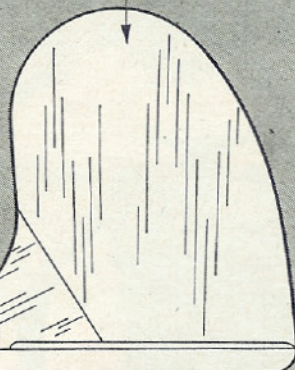
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flying in approximately 50 ft. dia. and, for a right-handed person, anti-clockwise circles, by warping down the trailing edge of one half of the tailplane. You may also find a little rudder adjustment necessary to get the model off the top cleanly before it has lost much height. It is seldom that a chuck glider remains in trim for two successive outings, owing to changed wind and weather conditions, but even if the weather remains completely unchanged for a week, it is a rare occasion when the model does not need slight alteration in trim. The diminutive and solid construction of the chuck glider leads one to believe that it could not alter its shape so quickly, and yet how else is this phenomenon to be explained? It is a bouquet of the sensitiveness of the model that these slight warpings due to humidity changes make such a difference to the trim.

To throw the model 40 or 50 feet into the air by the strength of the arm alone is energetic work, and until the knack has been acquired it seems a difficult feat, as the model will frequently fail to pull out, hurtling earthwards at its terminal velocity (another reason why construction is solid). It is futile to try and describe how to throw a chuck glider. Only practice makes perfect, so get chucking!

Bicep Builder

1/32" HARD SHEET
BALSA FIN.

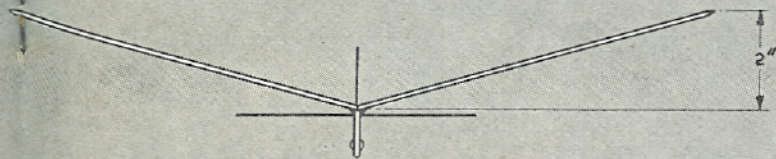


3/32" SPRUCE FUSELAGE.



-SECTION 'AA'-
SHOWING METHOD OF FIXING WEIGHT.

- FRONT VIEW 1/4 SIZE. -



1/32" HARD SHEET
BALSA TAIL.

