

★ SPRING ISSUE
Vol. II., No. 2

model 2!

Hobbies

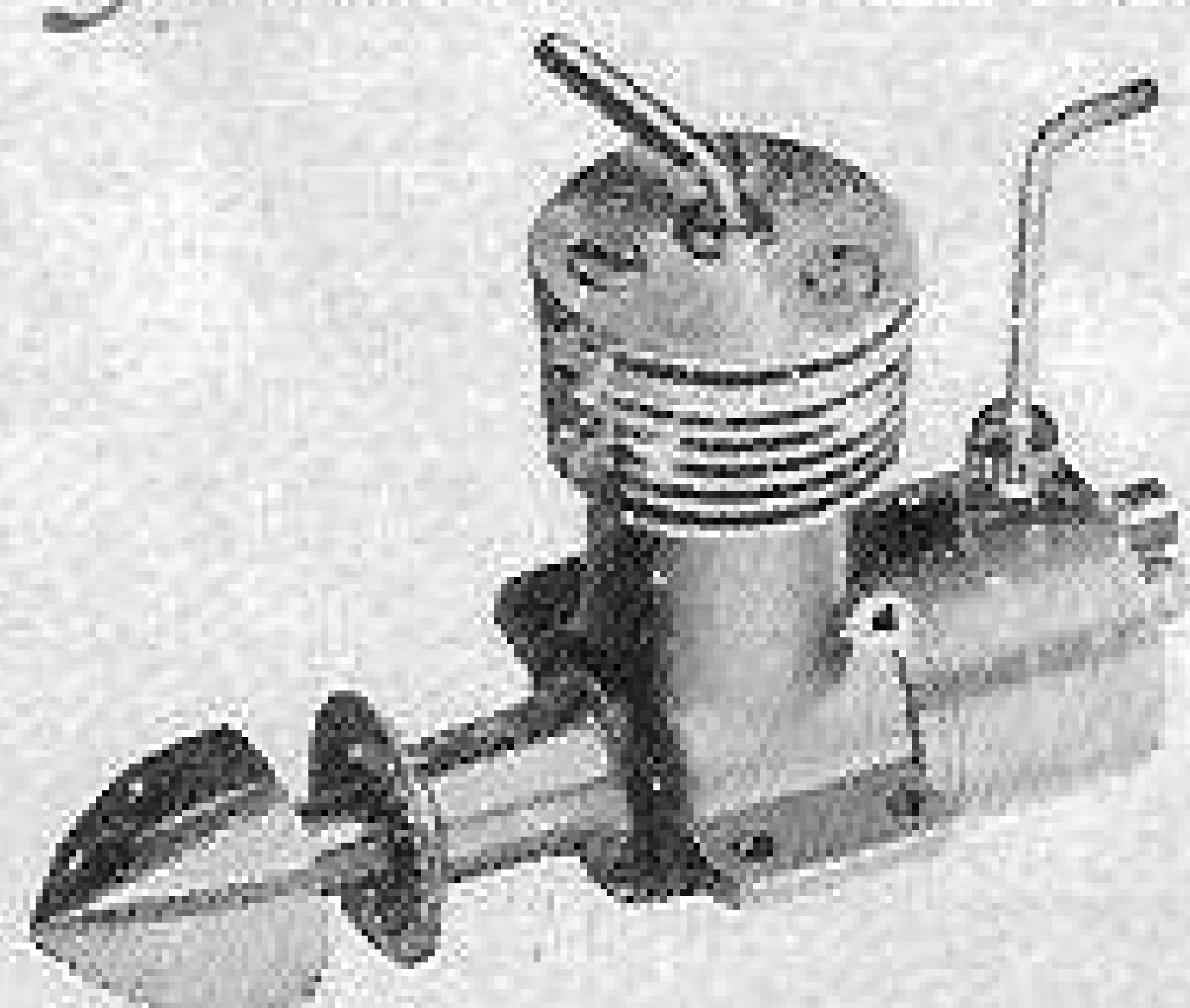
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FEATURES ★

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PLANS 2.5-3.5 STUNTER—BEGINNER'S GLIDER—JETEX—WAKEFIELD

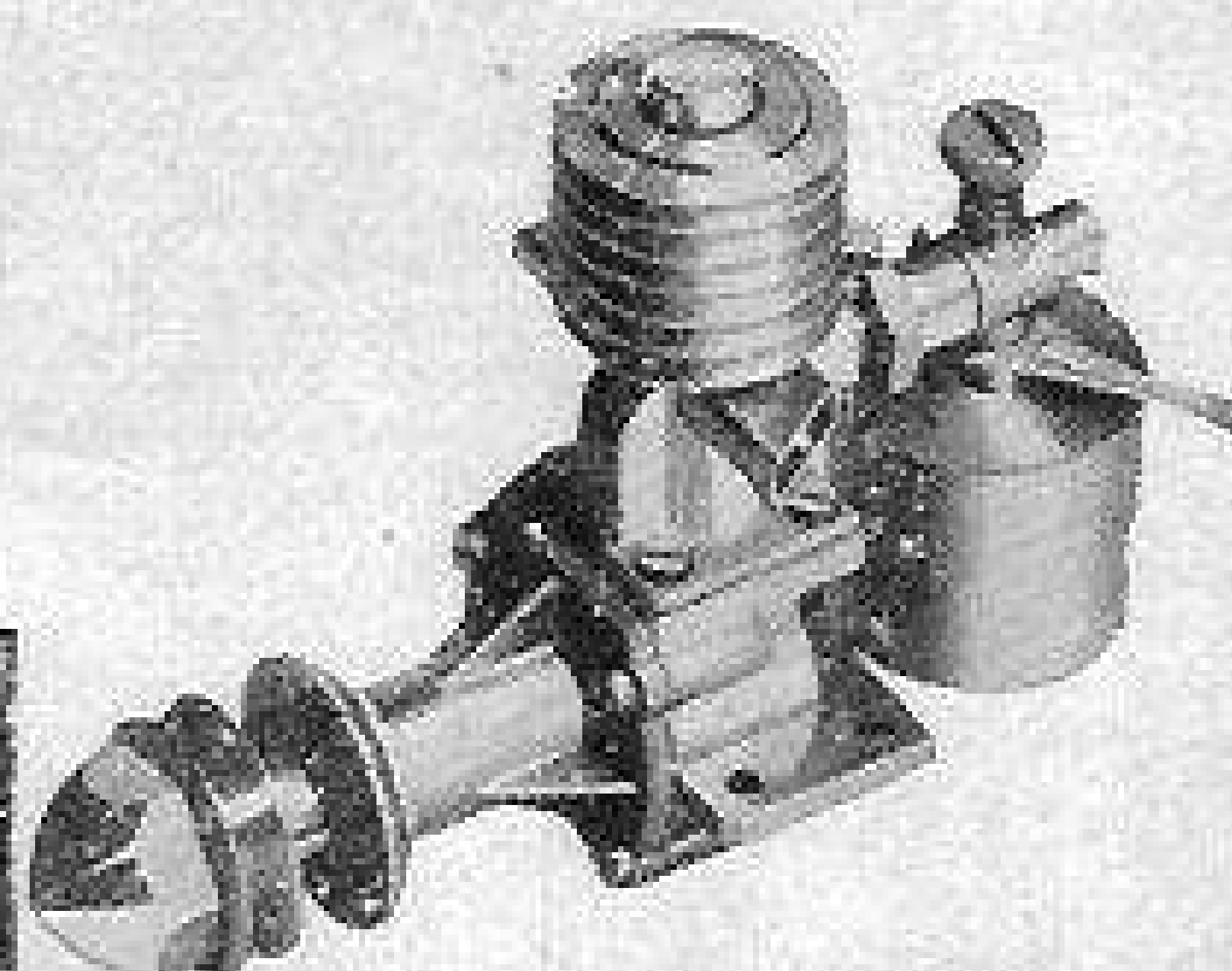
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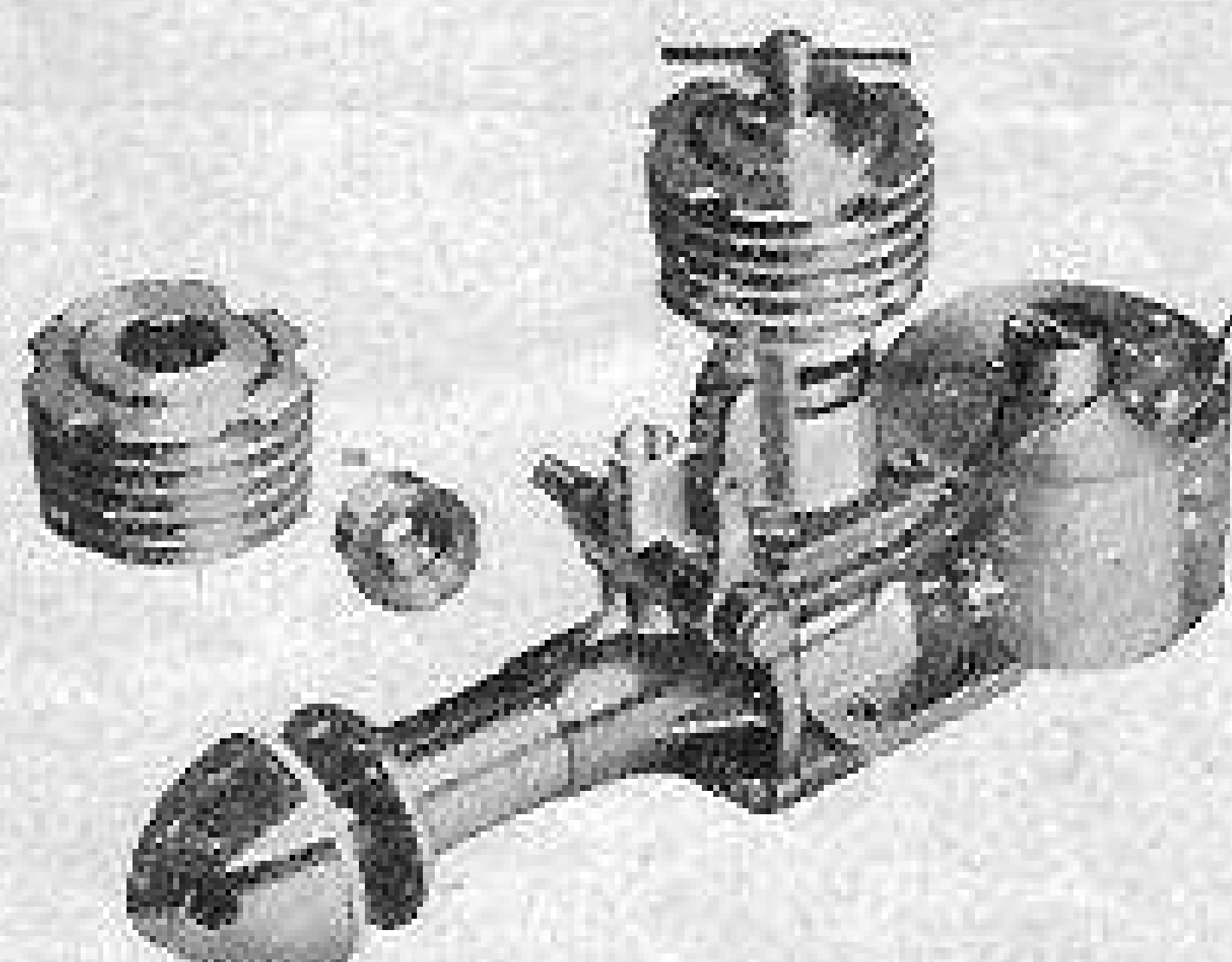
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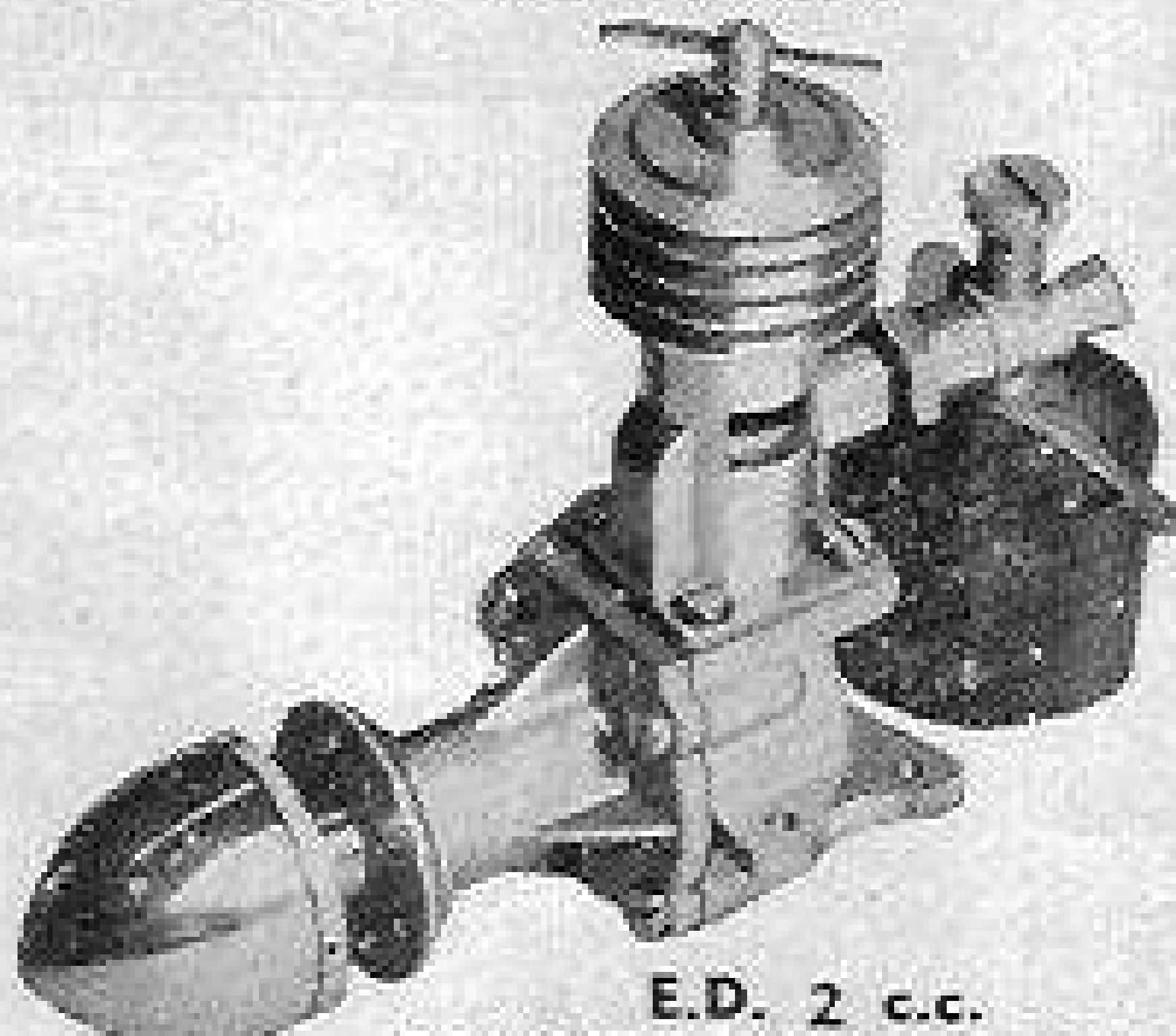
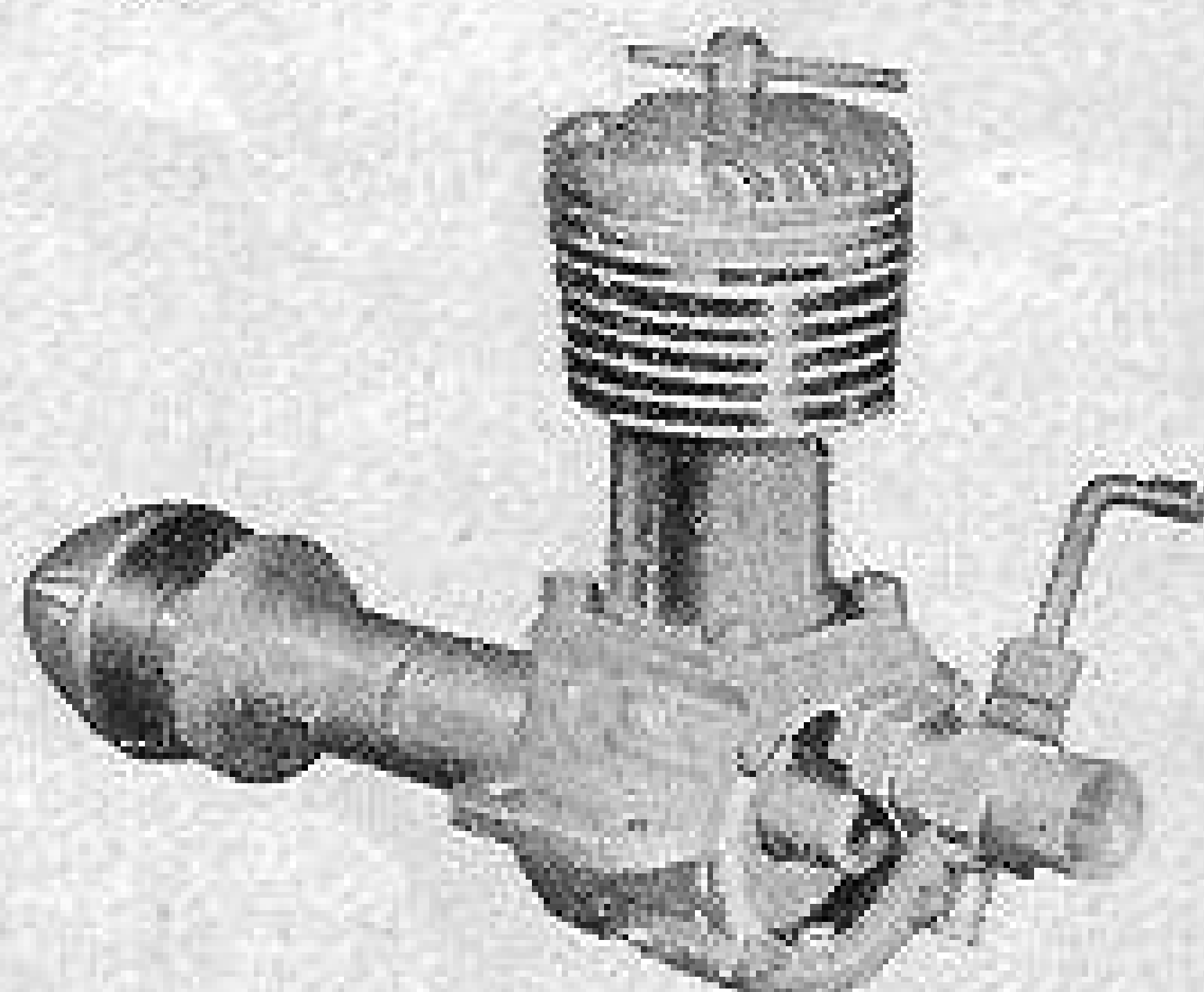


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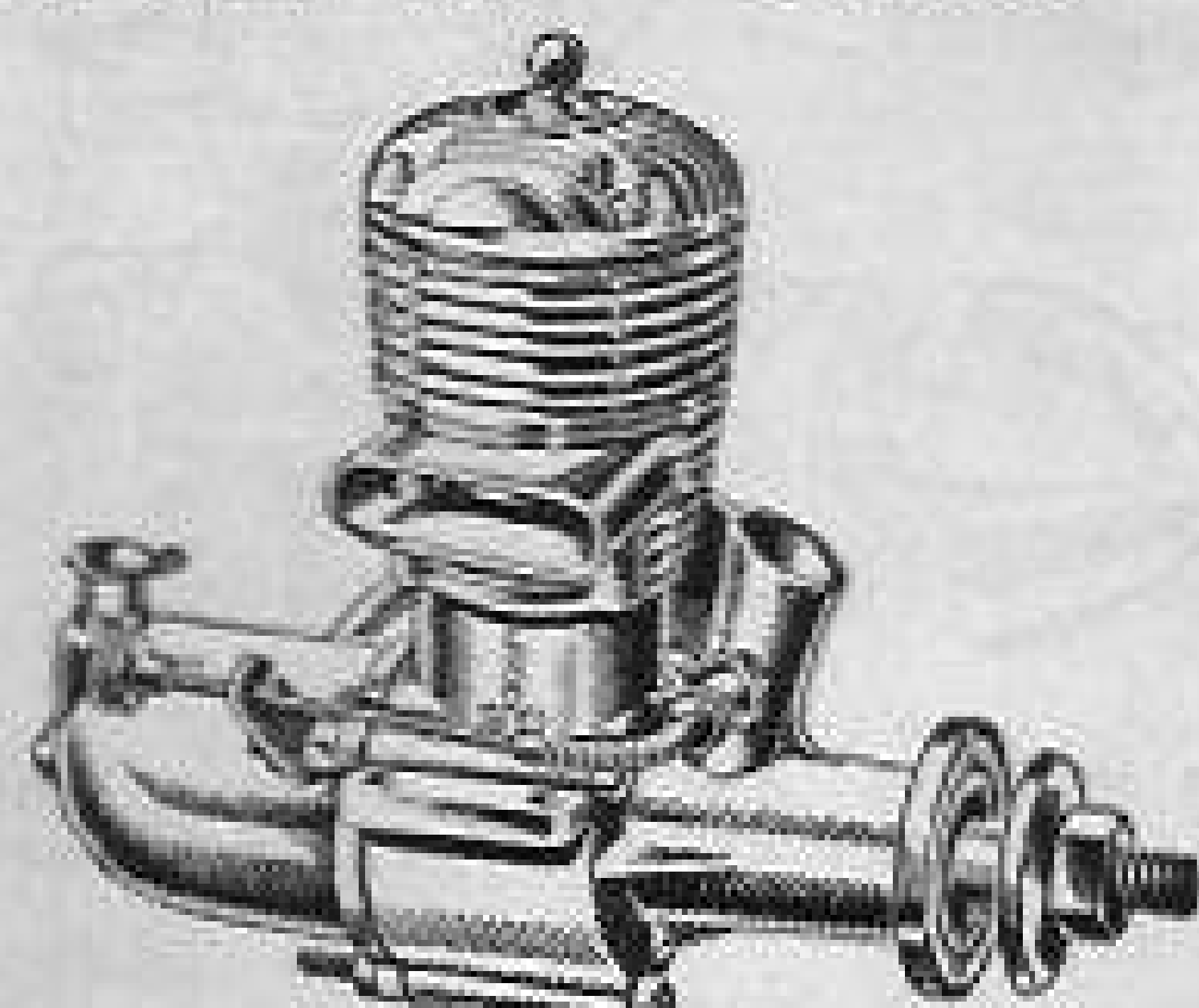
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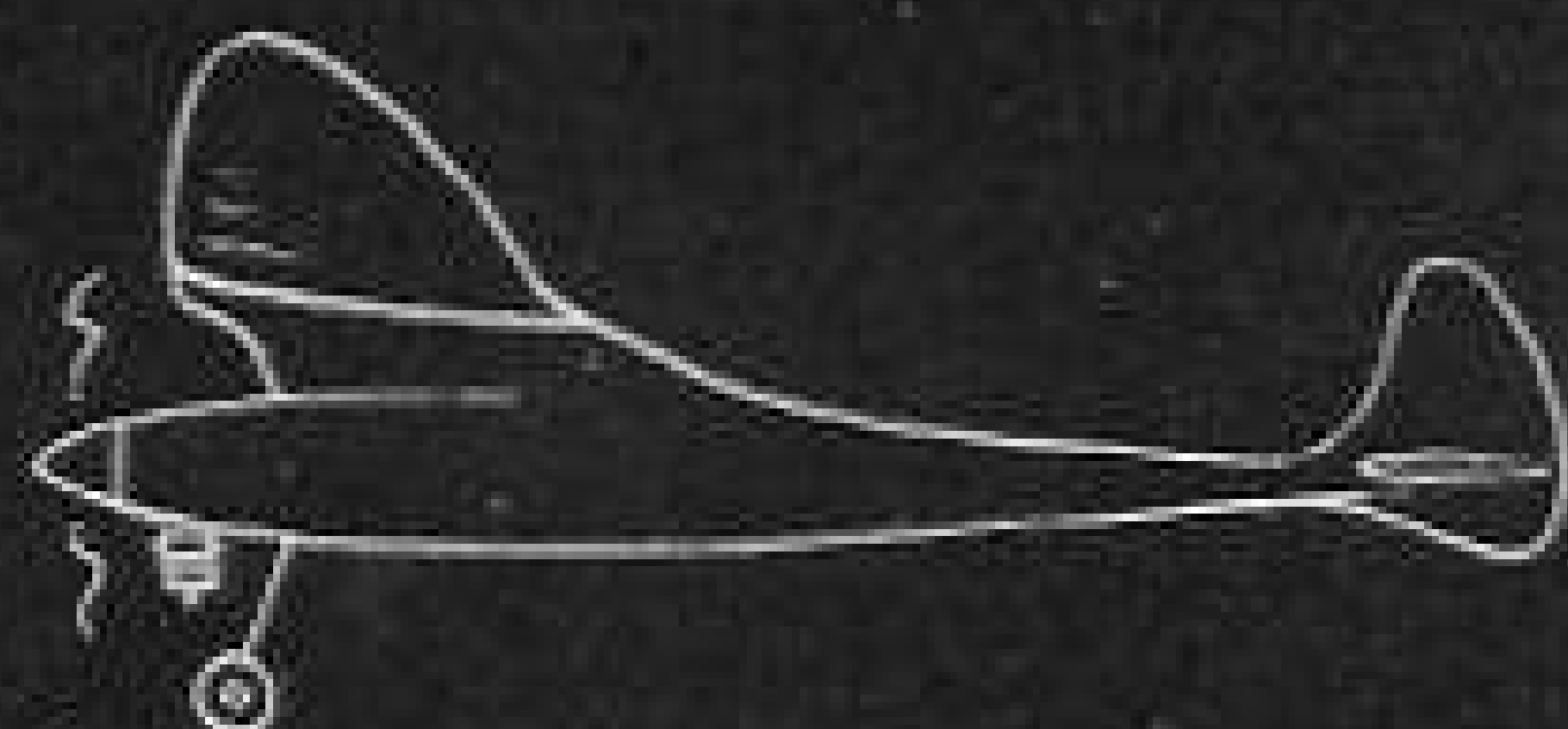
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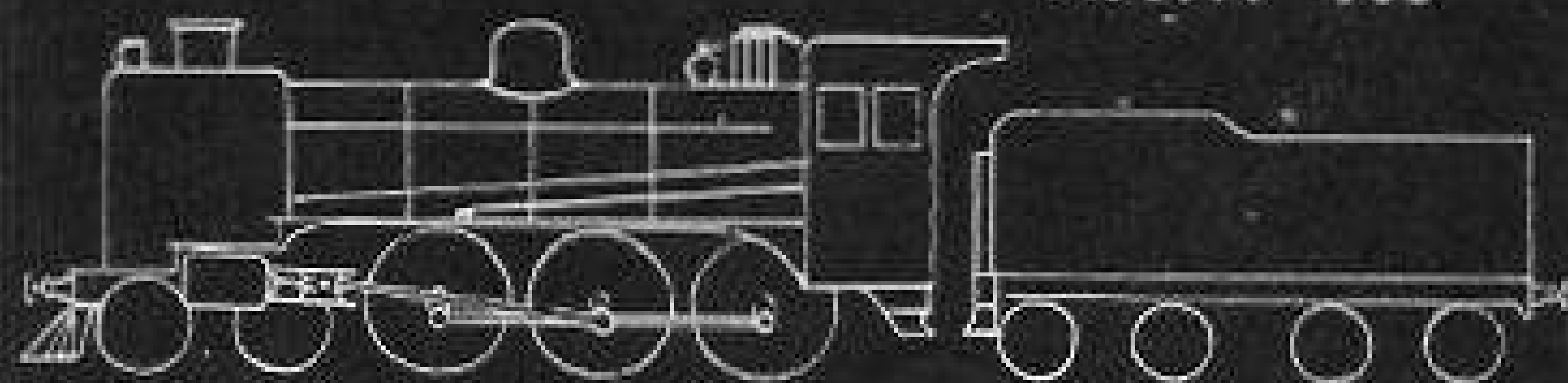
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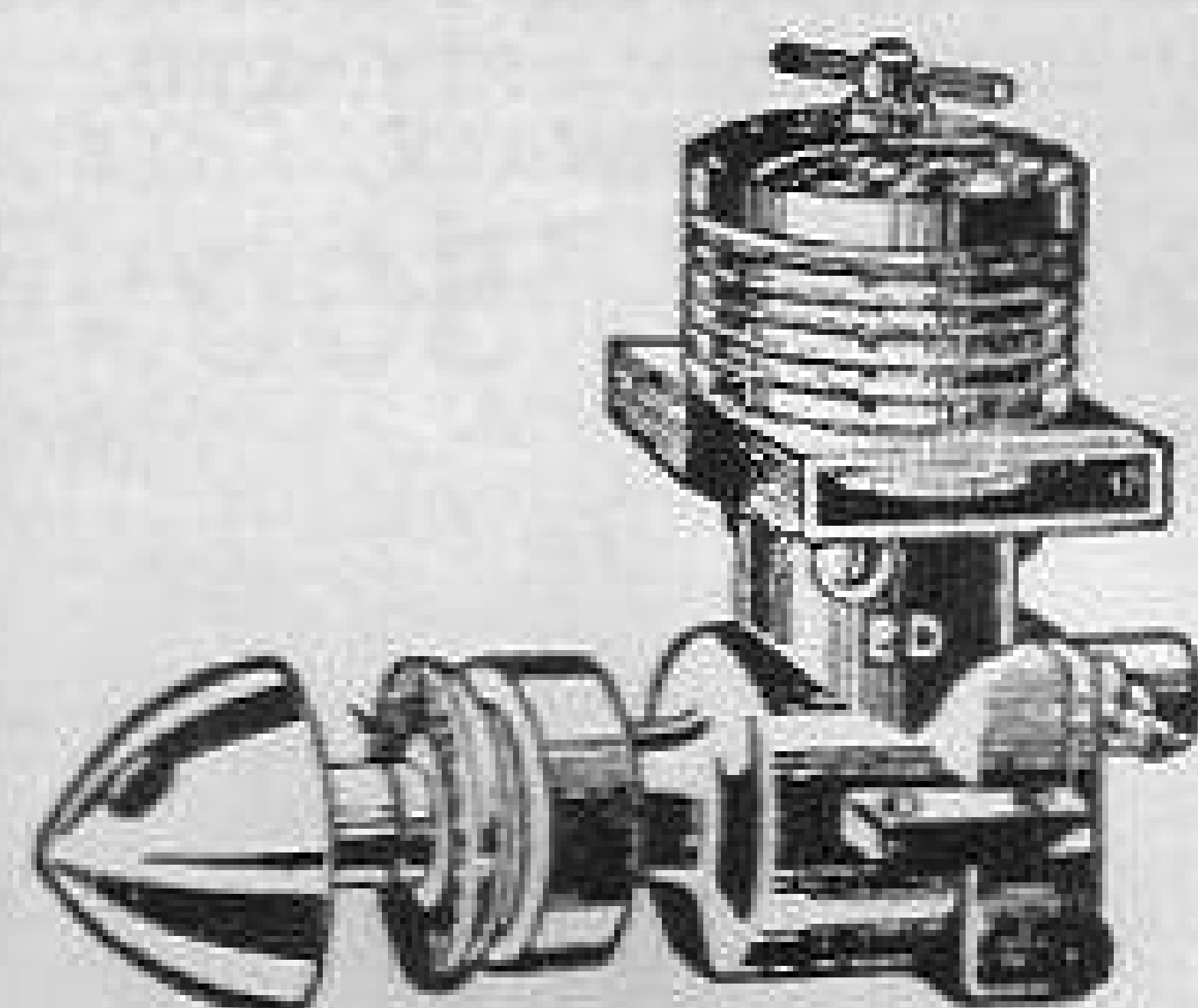
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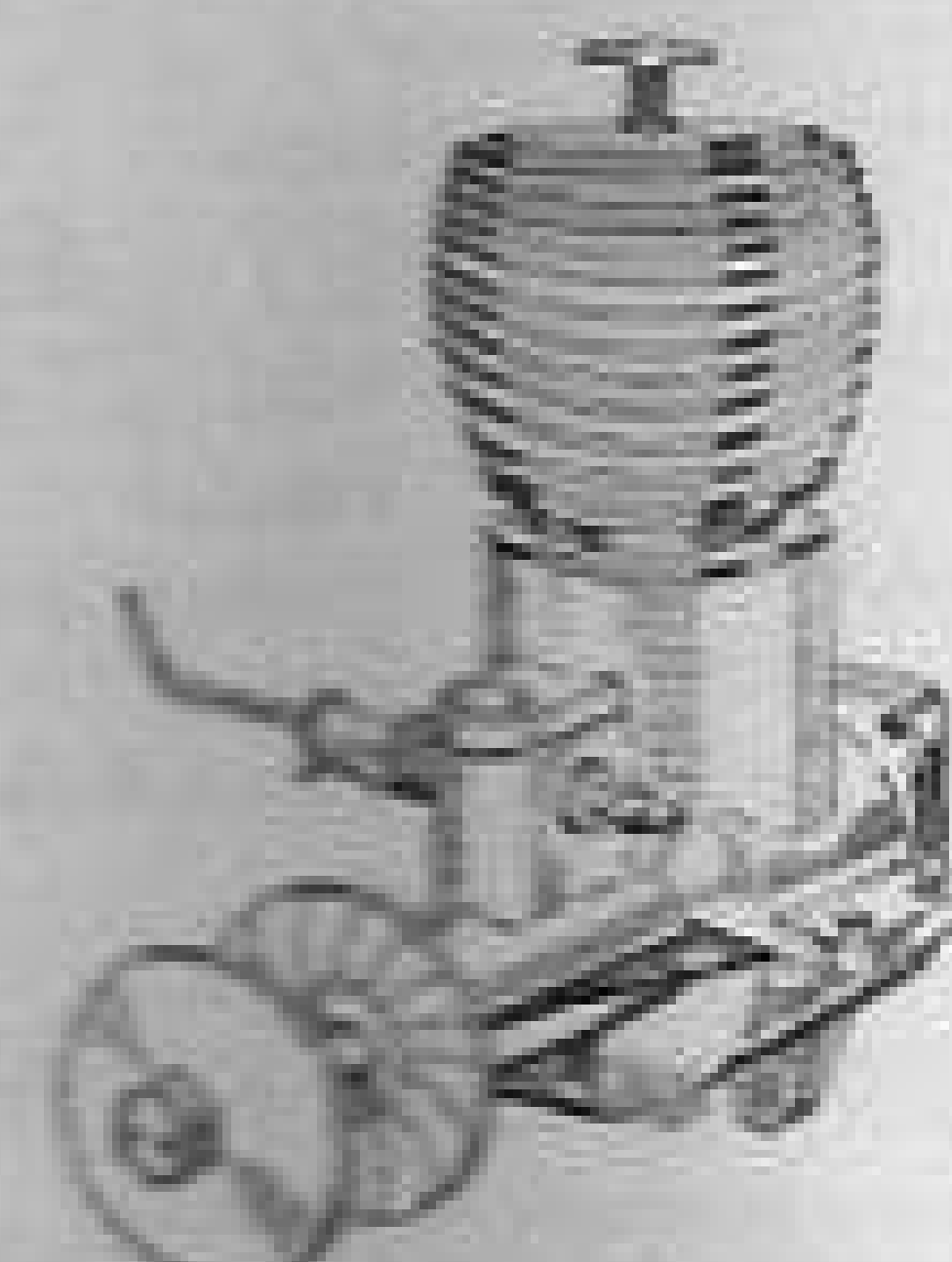
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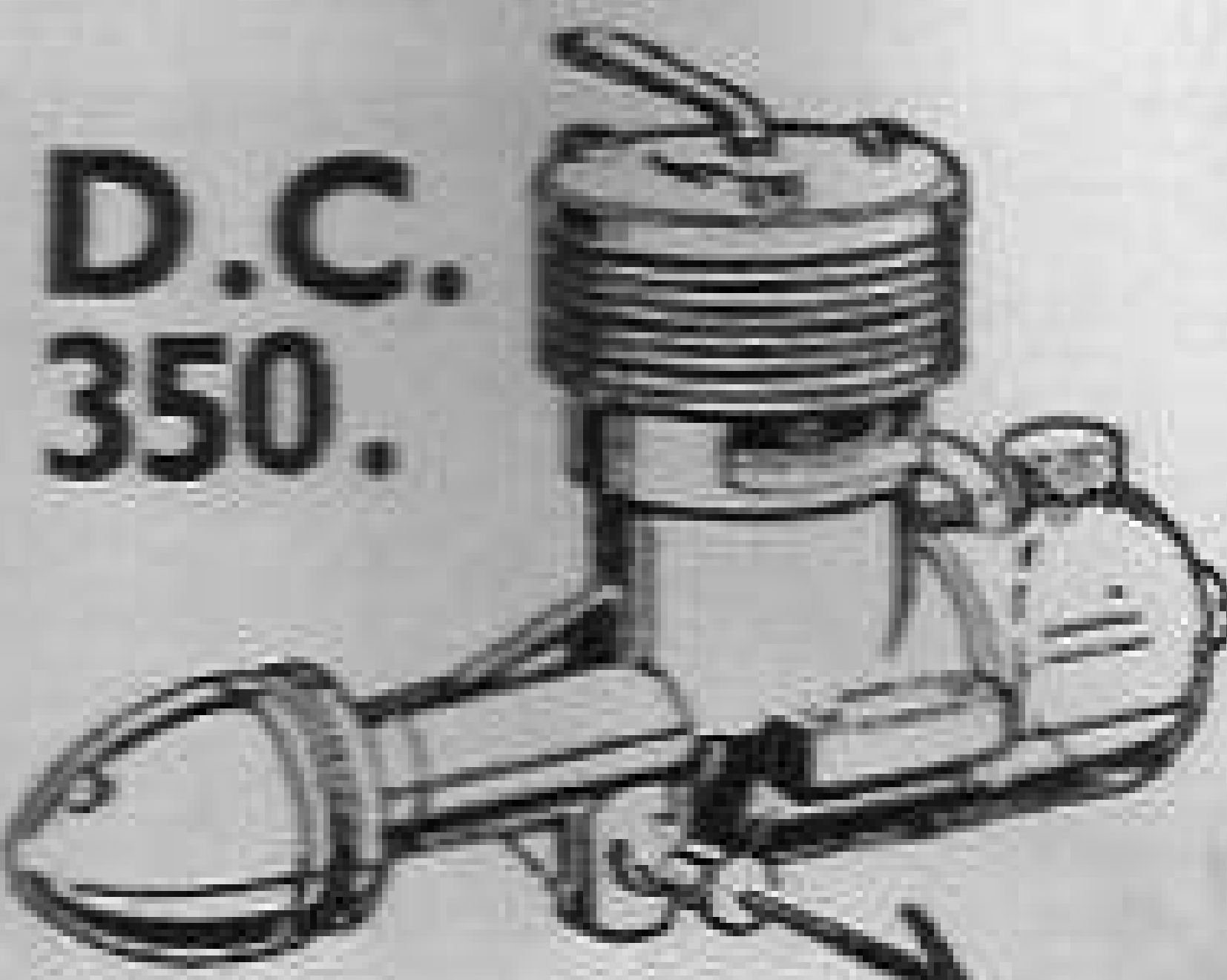
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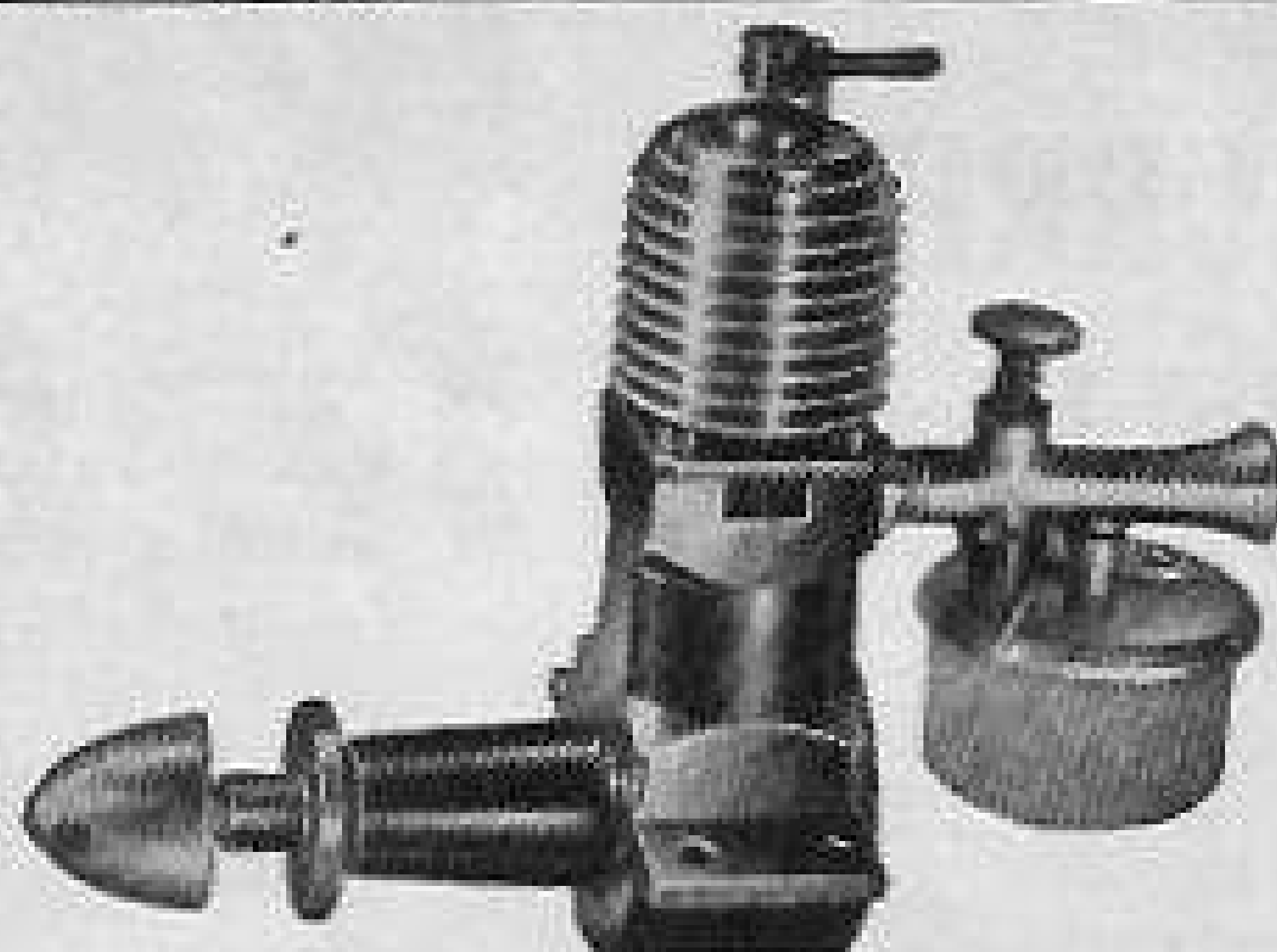
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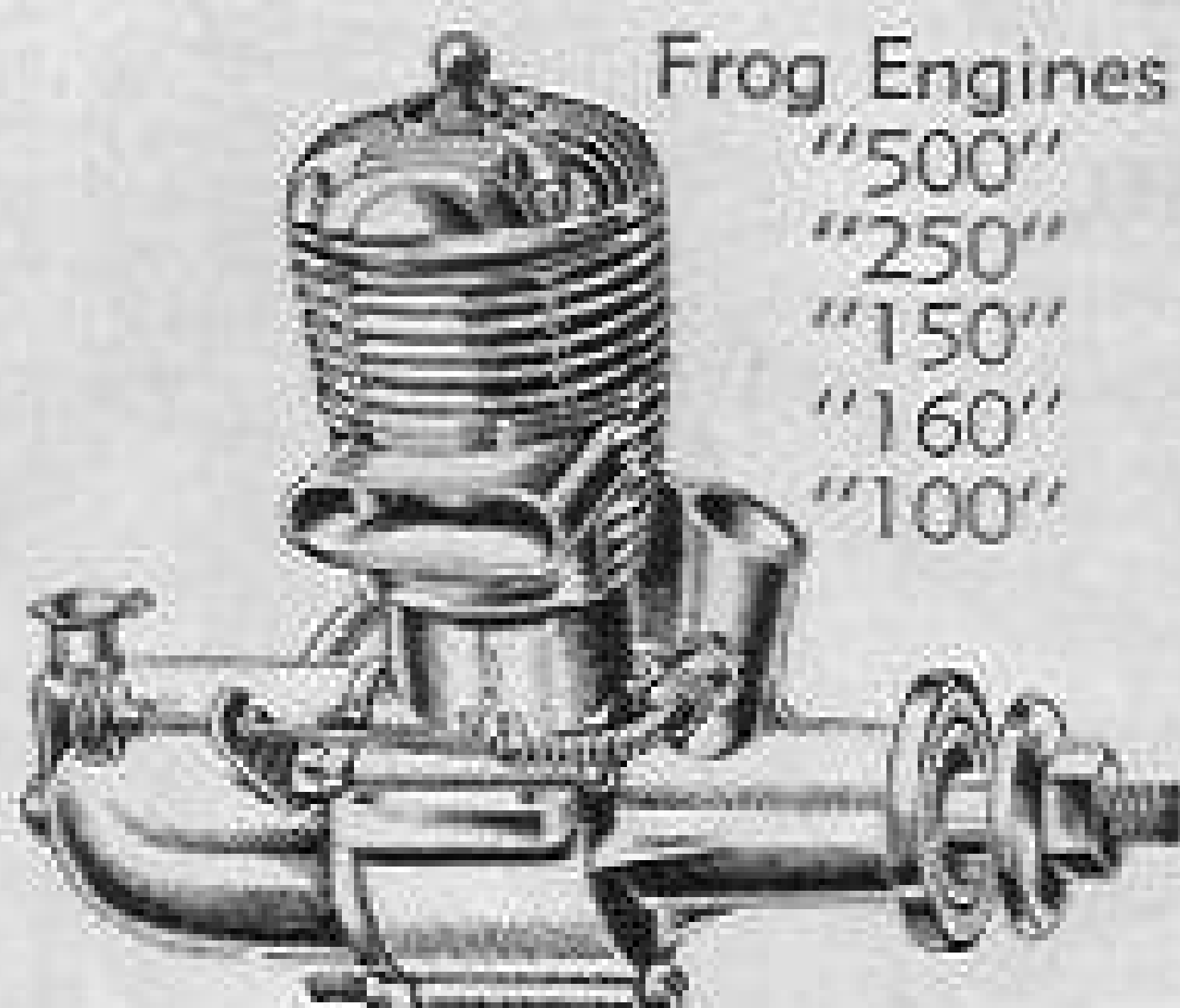
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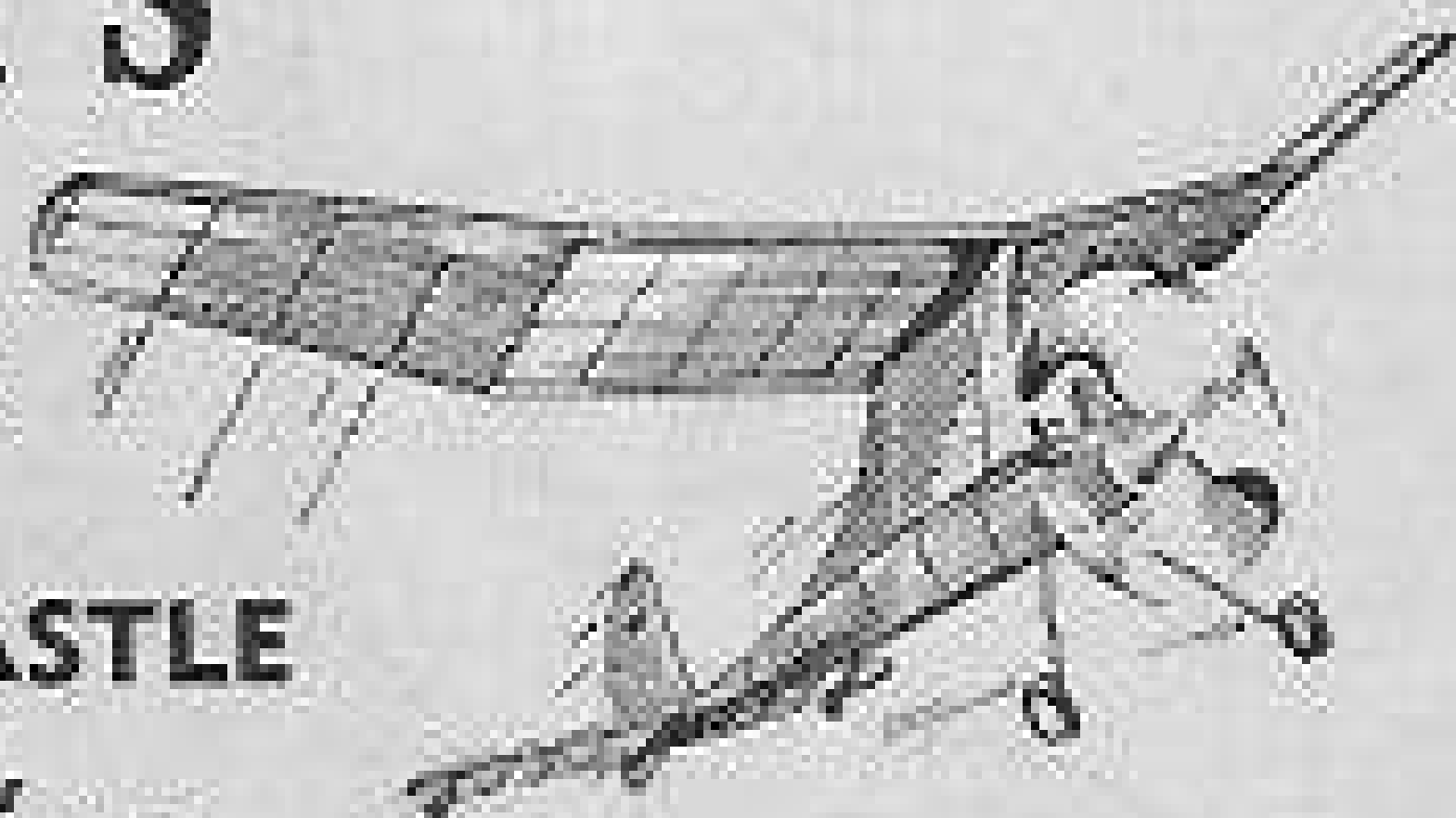
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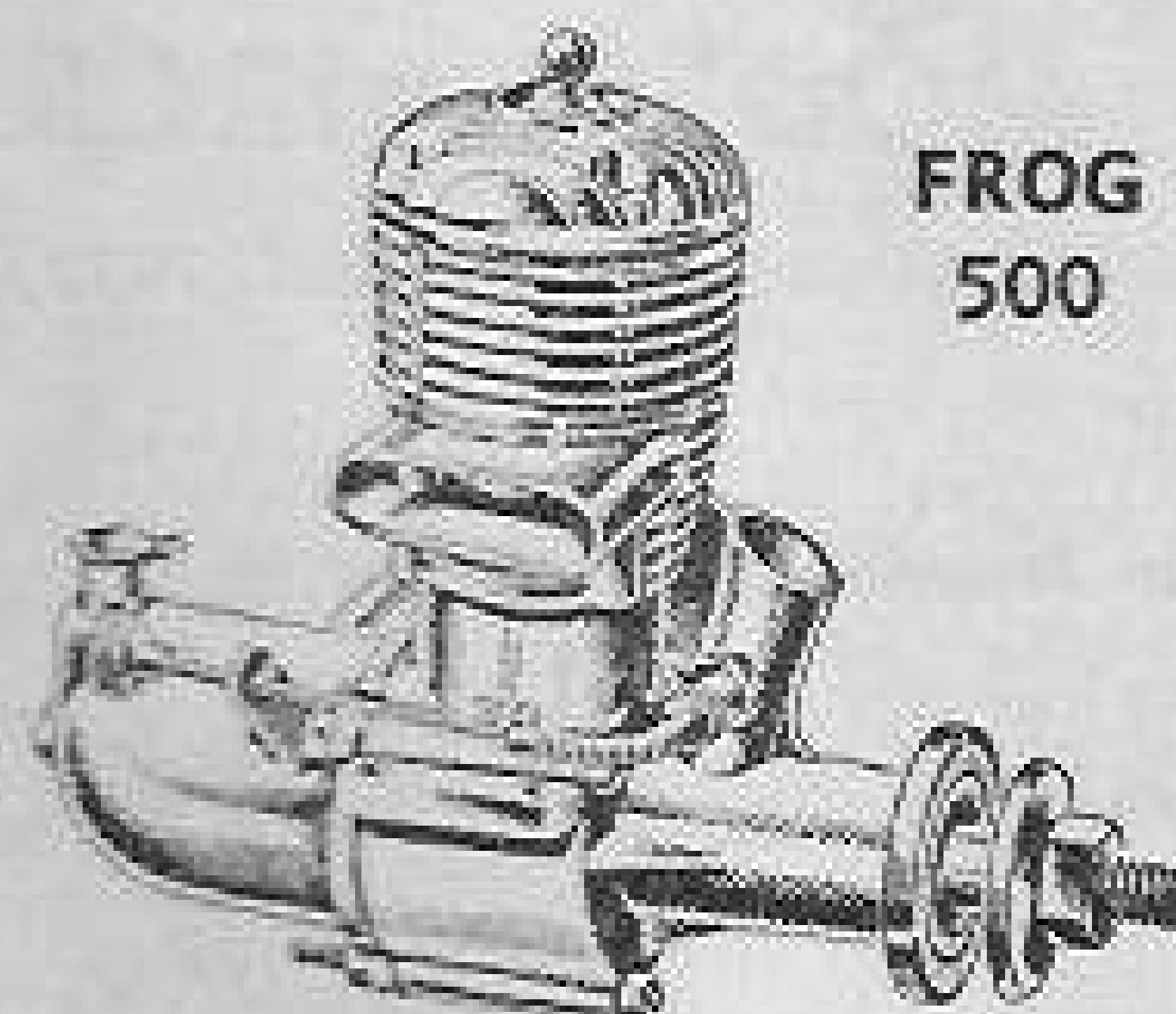
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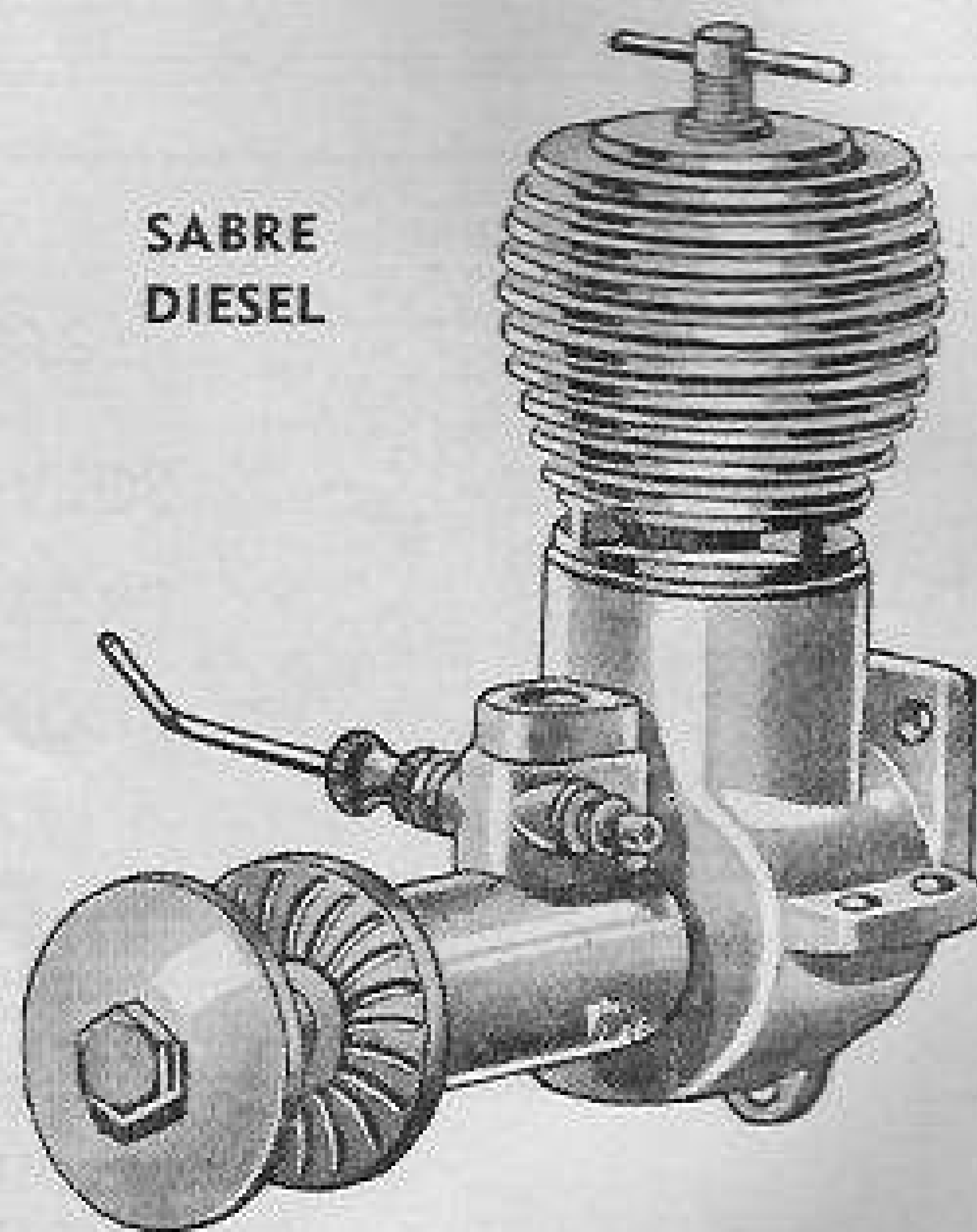
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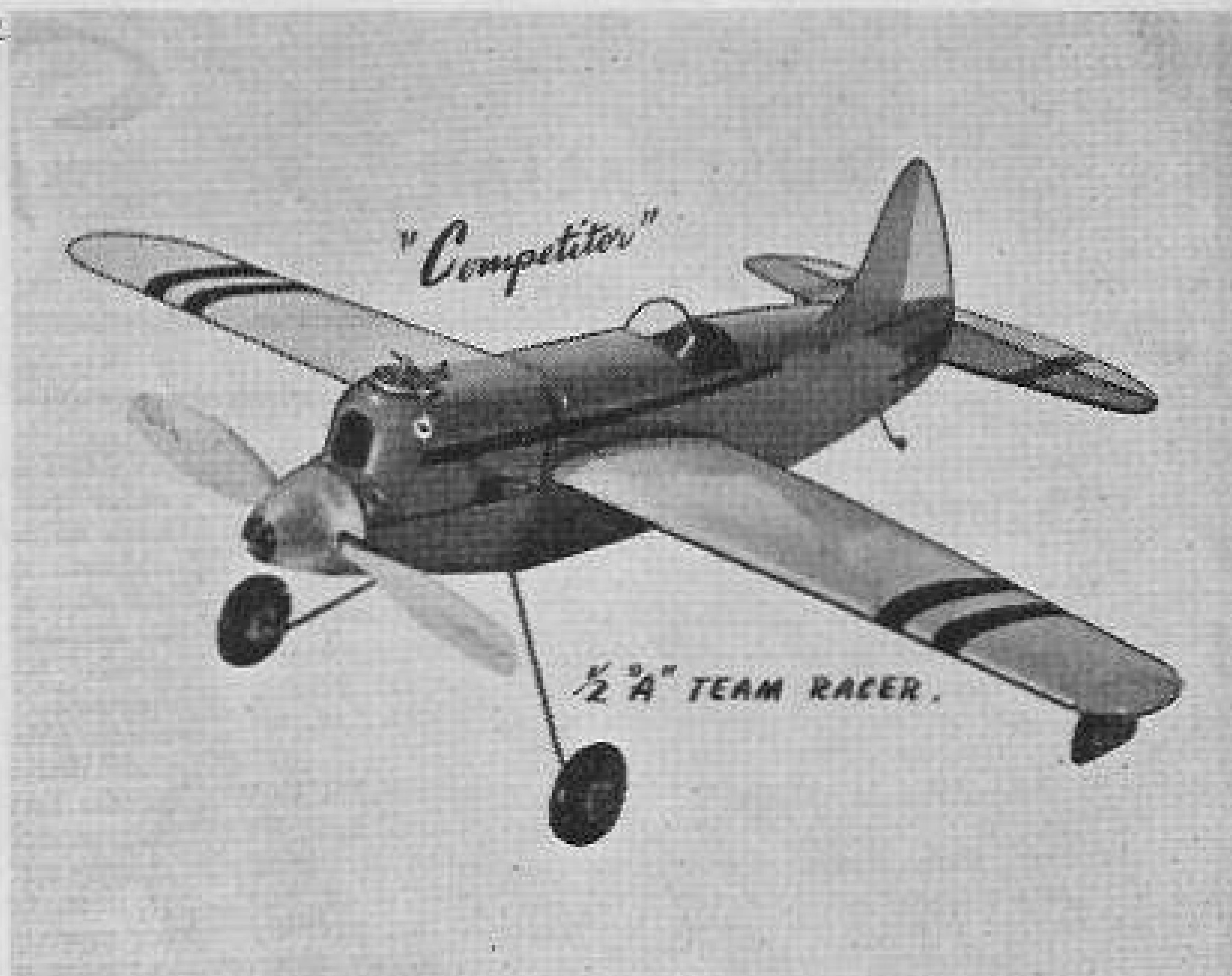
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EDITORIAL

This issue, although a little late, is a great improvement on the previous one, and let us hope we can improve even further with the next issue, by getting it out right on publication date, which is set for November.

Model Race Car fans may be disappointed that this issue is devoted entirely to aeromodelling, but we assure these readers that we do not intend dropping the model cars permanently. Our next issue will include plans for a simple low-powered car, possibly a high speed model, and the latest speedway news, including an article on the latest American development on the dirt tracks, the 3Q midgets.

Free Flight models have also been neglected in recent issues, but here again we intend to make up for this in November. Model Hobbies.

Advertisers have been mentioned in our editorial before, and again I would like to stress the fact that without our advertisers we could not publish Model Hobbies. The cover, you will notice is now printed in two colours, which I hope you agree, is more attractive, and this, too, has been possible because of the increased number of advertisers. If your local supplier is not one of the advertisers in this magazine, let him know you think he is letting you down, as Model Hobbies, Australia's only Model Aircraft magazine, depend upon our advertisers to keep in circulation, and the more advertisers in Model Hobbies, the better magazine we can offer you. So if you like to see an Australian Model Magazine, support the Advertisers in this magazine.

I would like to point out to those of you who purchase your model goods by mail, and at times probably have not been able to get just the speedy service you feel should be offered by the Model Shops, that the stocking of these model supply stores is a terrific task. In some cases I have known deliveries from

England to take almost 12 months from the time the order was placed. Just recently for instance there was both an airways and shipping strike in London, which dislocated both air and post deliveries. Delivery by air which should take about a week was lengthened to almost two months. So in future be tolerant if the goods you order are sometimes slow in coming forward. As usually the model store is more worried about their temporary inability to supply your needs that you are, and they do their best to satisfy your needs, but delivery from manufacturers—over which the model shop has no control—shipping or postal delays are but a few of the model shop manager's worries. Give him a fair go and he will do his best for you.

Paper supplies are becoming difficult, which means that only a limited number of Model Hobbies can be printed, so we urge you to place a regular order with your newsagent or model shop, then you will be sure of your copy.

Plans, news, hints, etc., are still needed for publication, and we wish to make Model Hobbies truly representative of Australian Aeromodelling. To do this we need details of "goings on" in your district. Should you have submitted anything in the past, and it has not appeared in print, please do not think that it has not been appreciated. Every letter, or photo received is considered, and when possible, is published in Model Hobbies. Prints, not negatives of photos are required.

An error appeared in our last issue. Yes like all normal people we make mistakes. Rod Ashton, the well-known Westralian modeller was listed as placing third in the Nationals class B Team Speed Event, whereas Rod actually gained second place. Sorry Rod.

Bill Evans

Editor.

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H O B B I E S

SPRING ISSUE, SEPT.-NOV., 1951.

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COVER PHOTO (by Ed. Stoffel)

Bob Copland with his 1950 Wakefield, which shows very little outward difference to his pre-war models.

Minor modifications, and constructional detail have however been progressively improved, and Bob is still listed among the top three Wakefield flyers of Britain.

Many consider his model building, and scientific approach to competition flying is unequalled.

Bob's performance in this year's British Wakefield eliminations, and the Queens Cup event bear out this opinion.

All correspondence: The Editor, Model Hobbies, 3 Percival St., Glenelg, Sth. Australia.



Our feature photo this month shows—what appears to be a fast dying race—"a happy aeromodeller."

Too many modellers encountered on the flying field appear to have developed into "nigly grouches." To assist the beginner, to help another chap by loaning a prop or such, or to be a happy laughing type, seems to be a crime in some circles.

Let's wake up to ourselves! We model for the fun we get out of it, at least we should, and once aeromodelling ceases to be a pleasant affair, then it is time to take stock of one's associates and self.

The modeller pictured above is Dean McDonald, the younger of the McDonald, Father and Son team, which is most active in both Free Flight, and Control-line flying in South Australia. Father, Don, recently won the "All and A" class State Free Flight Championship flying his well-known Hyphen powered with an Amco 3.5.

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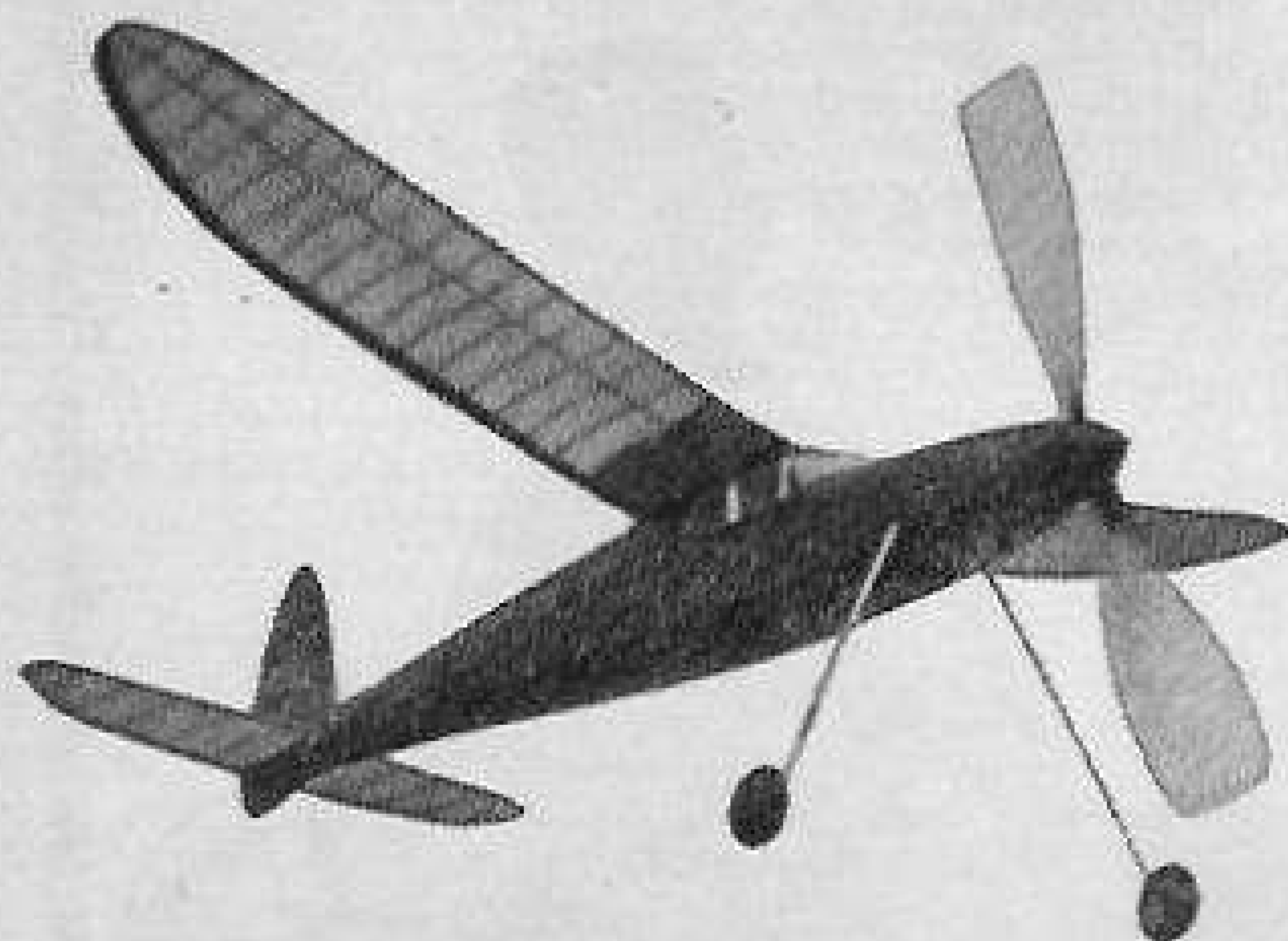
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The WAKEFIELD, the model aeroplane contest accepted by all aeromodelling countries throughout the world as the Premier event in International model aviation. Each year countries from the four corners send teams of Wakefield models, built to rigid specifications, to compete for the famous trophy presented by the late Lord Wakefield of Hythe. The contest is held each year in the country of the preceding winner.

—The "Aristocrat" designed by our correspondent Ed. Stoffel—who is responsible for all photos appearing on this page—built by a 16-year-old New Zealander and flown proxy in the 1949 Wakefield, it was the only model to achieve a five minute maximum flight. Ed. says that in the light of increasing competition, good looks must give way to a more functional design.

as successful as possible, under the conditions—bearing in mind the crashery at the Cranfield Wakefield a couple of years before—hand launching was permitted in the early round.

The first model got away on time—6 a.m., but conditions were certainly bad, poor visibility considerably affected the times of the flyers early on the roster, and no doubt was responsible for many top men being much lower down the result sheet than their performance warranted.

Timekeeping during the first round came in for a great deal of criticism, which was apparently quite justified, because of the inconsistencies which occurred. It was generally conceded that the visibility allowed the models to remain in sight for three minutes plus, yet many models were clocked off O.O.S. at a much lower figure. Ted Evans was one of these, being credited with

• • The Wakefield Story • •

The British Elimination Trials and the International finals flown at Jami-Jarvi, Finland are described in this article.

This year, for the first time, an Australian aeromodeller was present in person at the International Wakefield, flown at Jami-Jarvi, Finland, and no doubt this wandering modeller, Adrian Bryant, of Lismore, N.S.W., will be able to tell us some of the finer details of the 1951 Wakefield, but until Adrian is back among us we must be content with the written reports coming from overseas.

Thanks to the British magazine, "Aeromodeller," and many of our overseas correspondents we are able to give our readers a fairly complete story of both the actual Wakefield Contest and the British Eliminations.

The British Eliminations, or Trials as they are called, proved somewhat disappointing to many of Britain's top-line Wakefield flyers, and those who were hoping for a British victory were no doubt also sorry to see Bob Copland, Ted Evans and Ron Warring miss out on the first six places.

Digby Aerodrome was the location for the trials, and in an attempt to reproduce as closely as possible the non-thermal conditions expected in Finland, the contest was set down to start late on Saturday, 9th June. The first round to be flown in the evening, and the two following rounds early the next morning.

Rain came and prevented flying on the Saturday, so the trials got under way at 6 a.m. on the Sunday morning.

Poor visibility, high wind and threatening skies greeted the modellers, and in an attempt to make the contest

only 2 min. 12 secs., although his model landed close to those of other competitors who recorded much higher times.

The second round began under slightly better conditions, and models had now to R.O.G. Thermals, these unwanted assistants, showed themselves as a warm sun broke through the clouds.

Bottom of the page, but certainly not in the Wakefield story, Ron Warring one of the most consistent flyers of this type, and is a most authoritative writer on the subject. Model is a standard "Lombie," and is fitted with a transparent nosecap.



Bob Copland, flying his well-known streamline-type, which he has developed and flown for 14 or more years, came into the lead at the end of round two. Ron Warring missed out badly in this round with a flight of only 1 min. 49 secs., but Ted Evans improved his position with 3 min. 35 secs., although he was having trouble with his feathering propeller.

Highlight of the third round was when American Jim Tangey recorded a flight which put him into third place, but of course, not being a British National he could not take a place on the British Team, which was bad luck for Jimmy after earning the position. Bob Copland was announced as having earned fifth placing, which would have put him in the Team, but at Bob's request a recheck was made which deprived him of this position.

The Wakefield

*Jami-Jarvi Aerodrome, Finland
July, 1951*

Teams from eleven countries, Australia, Belgium, Canada, Finland, France, Great Britain, Holland, Italy, South Africa, Sweden and the U.S.A. competed in this year's event. The non-entry of New Zealand was a surprise as this Dominion has staunchly supported the Wakefield in the past.

Weather!!! Whether the weather? The eternal query of aeromodellers was answered with the wrong reply at Jami-Jarvi this year, where the weather was an extreme contrast to last, when ideal calm non-thermal conditions prevailed.

Fifty-one models arrived on the field from the eleven competing countries.

Adrian Bryant of Lismore, N.S.W. proxy flew Art Lonergan's (N.S.W.) Australian Wakefield winner, and English modeller J. Royle (who won a free trip to Finland) proxy flew Victorian Jim Fullarton's model. In Royle's hands Jim Fullarton's model had the top performance of all the proxy flown entries.

Processing of the models was conducted without a hitch, all models coming up to specifications.

The change in rules for this year's contest brought about a few new-lookers, but generally speaking designs were much the same as were flown by the various countries last year. U.S.A. probably provided the most noticeable swing away from the accepted style of Wakefield. Most of the American machines had much longer fuselages, low dihedralled or polyhedral wings. Two U.S. models were fitted with the twin-return gear system, those of Hofmeister and Perryman. The use of the minimum dihedral and the extreme length fuselages, although ideal for still air, proved to result in a rather unstable climb in rougher conditions. Some of these jobs were up to 60 inches in length.

Arne Ellilia, who has done what so few others have, won the Wakefield twice running, was most unlucky for his wing was wrecked before the contest began, and although quickly repaired the model was obviously not at its optimum trim.

A point of interest concerning the running of the contest was that the contestants were allowed to hold models however they desired, so long as no assistance was given at take-off. The "wing-tip/propeller only" rule

(Continued on page 32).



TOP.—E. W. Evans, top man in the British Team last year, and this year's team manager, winds his "Clipper." The prop is seen in the feathered position. Note wire undercarriage. E.W. or Ted, as he is better known is certainly one of the world's topline Wakefield men. Topliner No. 2 is Arne Ellila, holding the model with which he won the "Wakefield" two years running. This model certainly influenced Scandinavian design in this year's contest. Arne's use of twin return gear system was copied by many. No. 3, Bob Copland, has been at the top in Wakefield flying for more years than many of us have been building models, but has not yet managed to gain the coveted trophy.

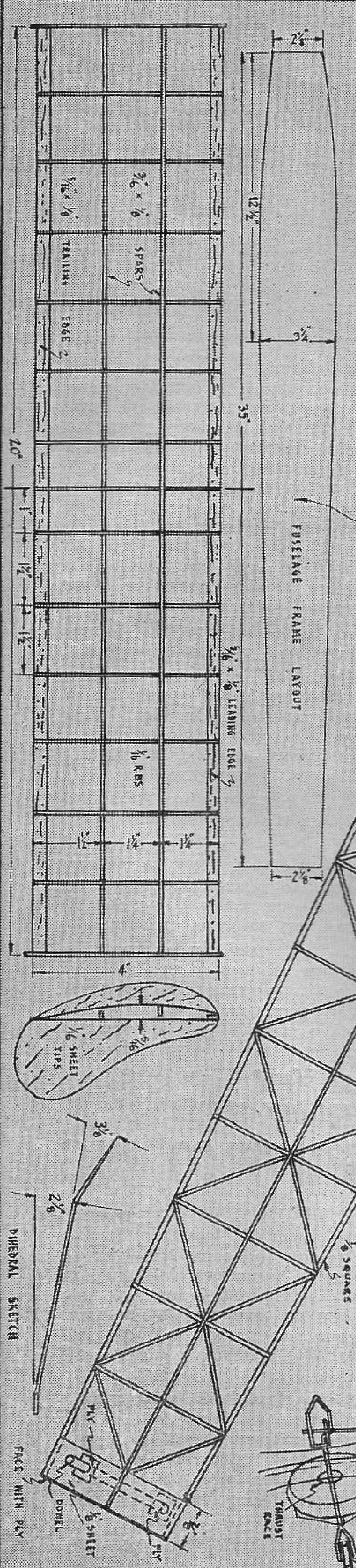
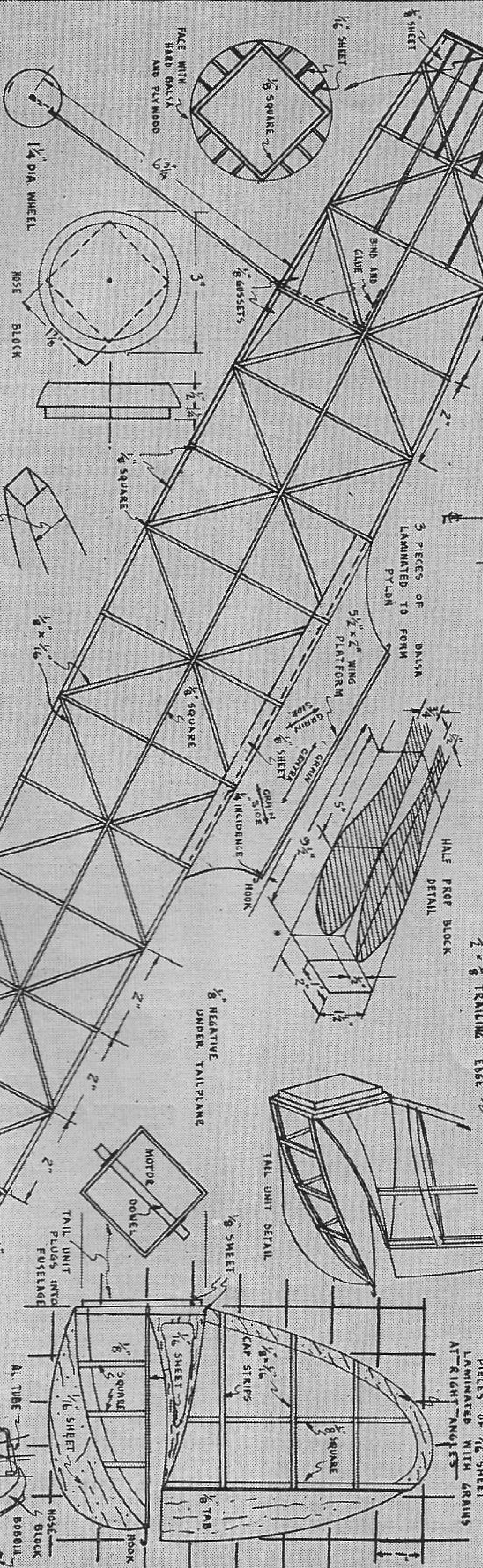
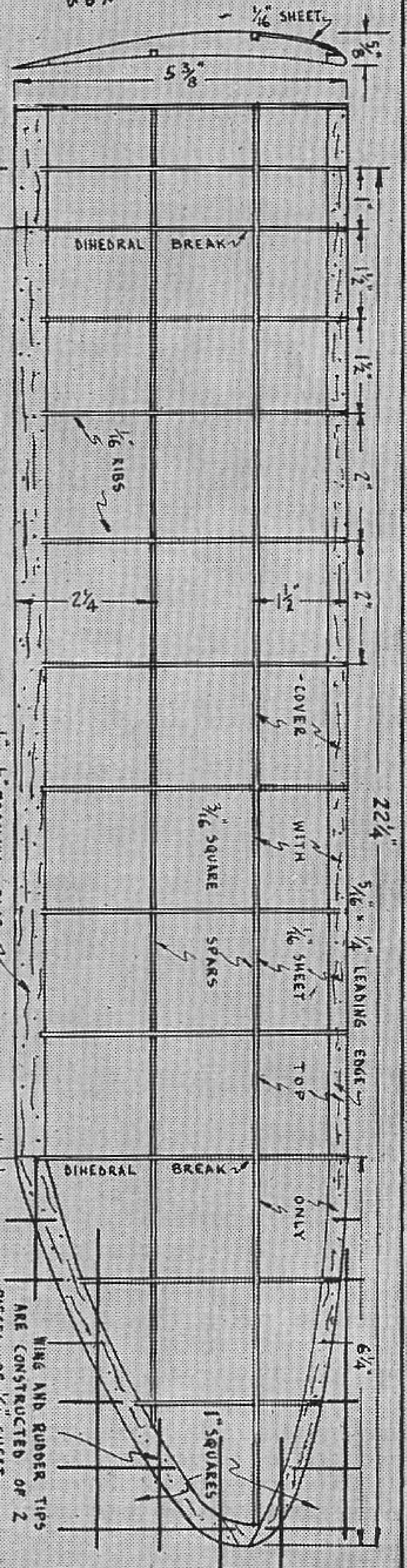
AUSTRALIAN Model HOBBIES

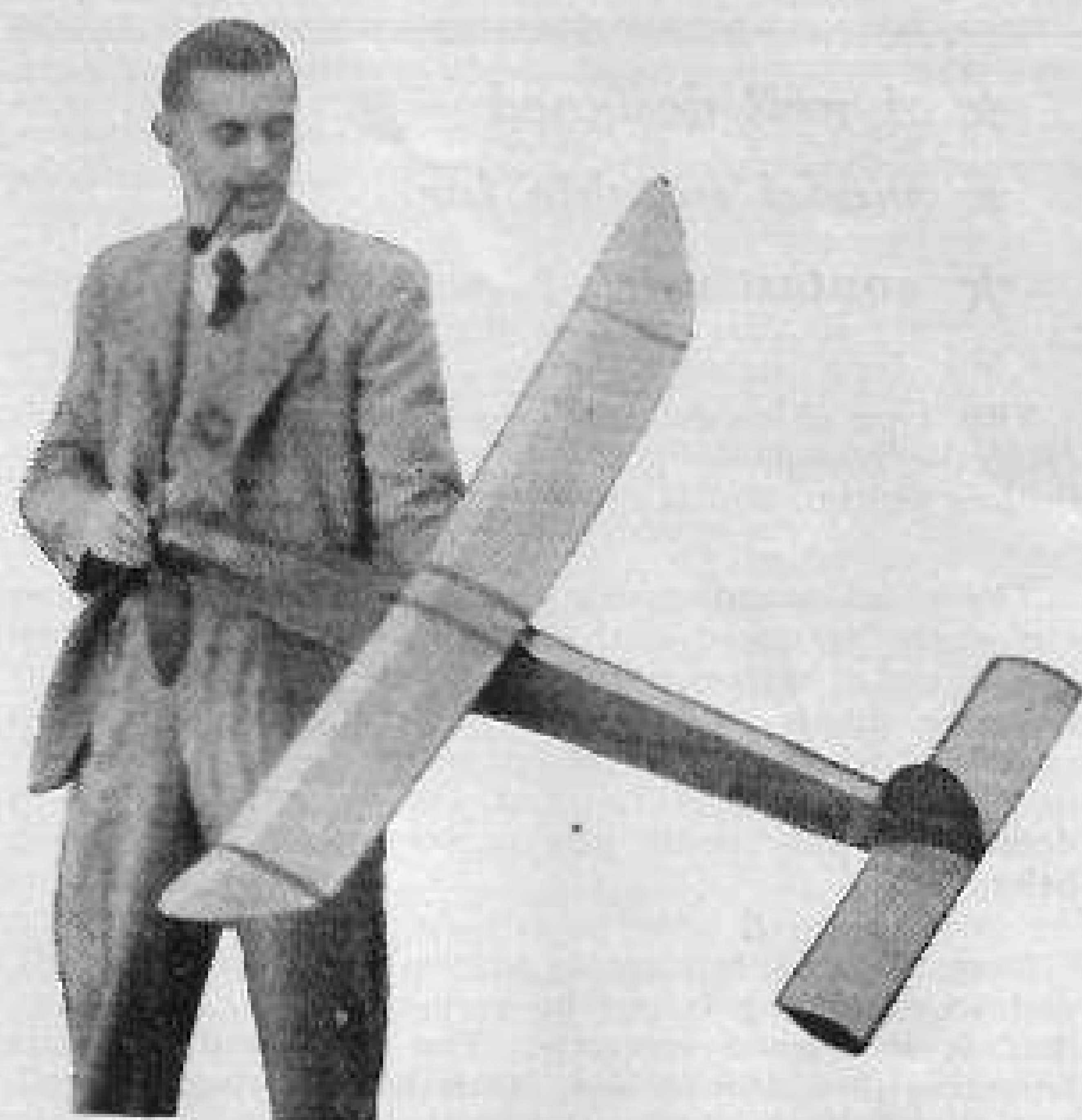
"SQUIRK"

A NEW WAKEFIELD MODEL BY
W. W. EVANS

MOTOR
10 YARDS OF $\frac{1}{4} \times \frac{1}{4}$ DUNLOP ... 16 STRANDS ...

BUILD IN
DOUBLE TISSUE COVER
CENTRE SECTION AND
DIHEDRAL BREAKS





The Wakefield model is claimed by many to be the most difficult of all to build and fly successfully, but I feel the reason for this is that the average Wakefield is designed by an expert for his own use. He knows his



The Squirk

BY W. W. EVANS



Fuselage Boom. Although a little extra work this does allow easy access to the rubber motor. First build up the laminated tailblock to fit the rear of fuselage. Cut out the tailplane mounting platform from medium soft quarter grained balsa, and cement it to the rear of the tail block at right angles to it. Allow this to dry. Cut a curved piece of $1/16"$ x $1/4"$ to form bottom of boom, cement in place, and add hard $1/16"$ x $1/4"$ cross struts. Study the plan for details of fin and rudder mounting to top of boom. First pin fin and rudder in place, cement and then allow to dry thoroughly. Remember the fin is covered beforehand. Next cut from soft $1/16"$ the fairing pieces to fit each side of the fin, cement in position and cover with tissue.

Fuselage. As mentioned earlier be sure to use the smaller drawing shown on the plan above the tailplane when drawing up your full size fuselage plan. Use hard

Get into the Wakefield picture with this rugged model. An extremely stable, non-critical design.

capabilities in adjustment and construction, with the result that in an attempt to gain the absolute maximum from his model the resulting design is a problem for the less experienced modeller who tackles one of these "experts designs."

The "SQUIRK" is not one of these critical "hot" machines, but was designed with stability in flight and simplicity of construction as the main requisite.

Construction is sturdy, and a full size plan can easily, and quickly be drawn up from the plan shown on the opposite page. All necessary measurements are given.

Note that the fuselage is a diamond (a square turned on edge actually), and when drawing up the plan be sure to use the measurements shown on the smaller fuselage frame layout drawing. Two sides are built over this plan, and then joined together to form a square, which is then turned on edge, and the pylon built on.

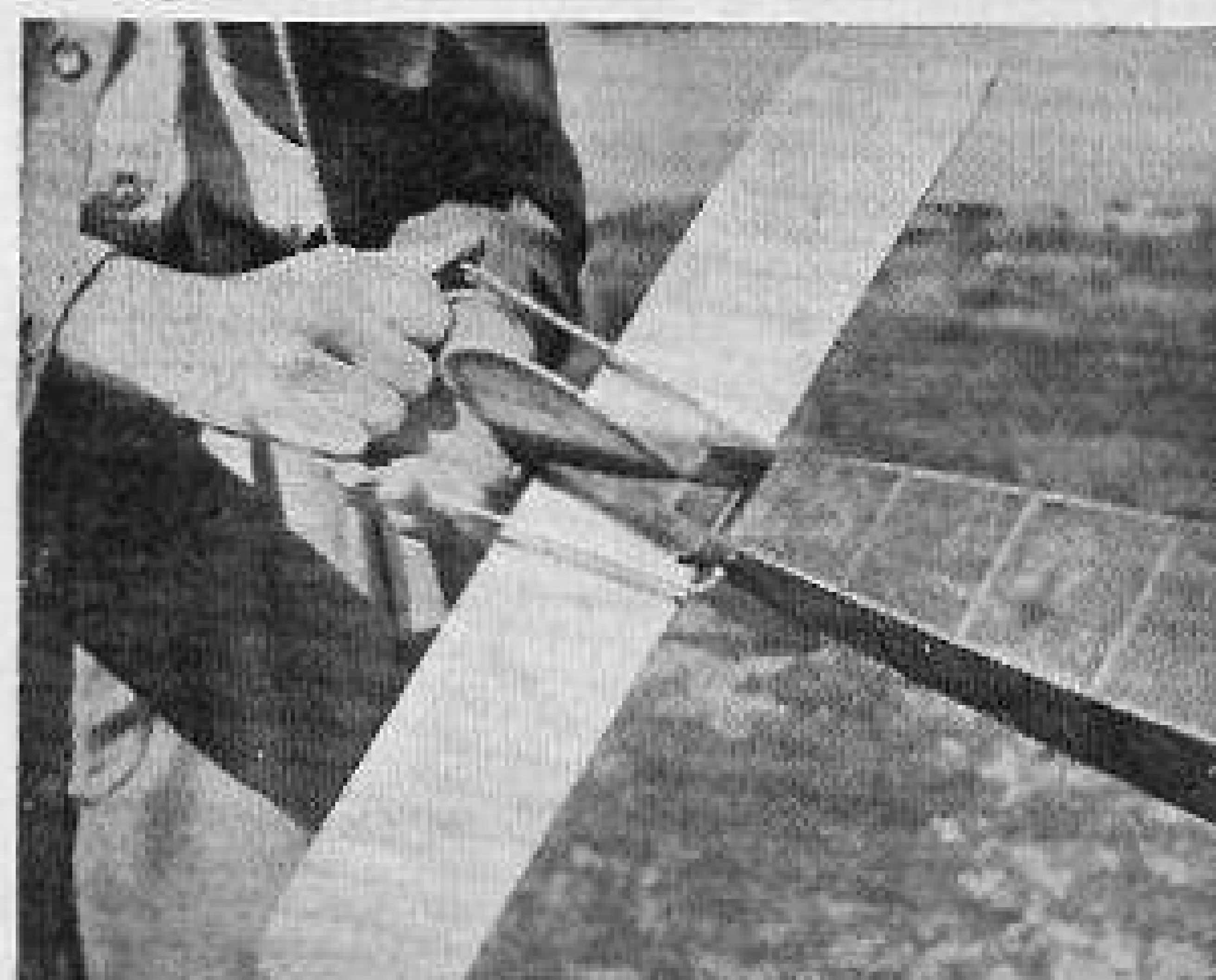
Construction.

Wing. Medium hard wood is used for all spars and ribs, but use medium soft quarter grained wood for the leading and trailing laminated edges of the tips. Try and get the grain as close as possible to right angles in these laminated parts. Construction is quite orthodox, so no lengthy description is given. Do not forget the plywood gussets at each dihedral join.

Tailplane. Here again construction is straightforward, and no description is necessary. The trailing edge is sandpapered beneath so as it sweeps up to give a modified thin M6 section. Cover before fixing end fins, but do not dope the tissue until fins are cemented in place.

Fin. The curved edge of the fin is laminated similar to the wing tips. The plan is shown in one inch squares so a full-size drawing can easily be made. Build up the fin and rudder, cover with tissue, and then dope.

$1/4"$ square for the longerons, and crossbraces. Build up to sides over the plan, and join together to form a square. To assist in joining the two sides make three or four jigs by cutting suitable sized squares in pieces of cardboard. Slide these jigs over the fuselage sides. These will make certain the fuselage is square. When all vertical cross struts are in place, and the cement dry, add the diagonal braces. BE SURE not to force any of the



Winding attachment is formed from $1/8"$ steel wire and slides in dural tubing used as the peg retaining rubber motor.

The Squirk (Cont.)

diagonals into place as they will distort the fuselage if oversize. Note the $\frac{1}{8}$ " x $\frac{1}{8}$ " sheet at both ends of fuselage.

Pylon. This is of course a part of the fuselage, but its importance warrants a separate heading. Using the centre longerons as a datum line, cut a piece of medium soft 3/16" balsa to form the centre of the pylon sandwich, so as it is $\frac{1}{4}$ " higher at the front than the rear. Cement in position and set aside until dry, then each side of this cement hard 1/16" sheet with the grain running diagonally. Allow this 1/16" sheet to protrude below the top longeron slightly. Again allow to dry. Bevel the edge of a strip of $\frac{1}{4}$ " x $\frac{1}{8}$ " at an angle of 45 deg., and cement a piece between each cross strut to strengthen pylon as shown on plan. The wing platform is cut from very hard 1/16" sheet with the grain running crosswise. Cement a fillet beneath the platform each side of the pylon. Fillet is made from piece of 3/16" square cut in halves diagonally. Cover pylon with tissue.

Propellor. A two-bladed free-wheeling propeller is fitted for simplicity and stability, and because I think it is the most suitable way of transmitting the power into thrust. The disadvantages of the large free-wheeling prop may cause it to be discarded by some, but today you will find very few folding propellers on the machines of the overseas experts, and the reliability of the freewheeler certainly makes it the obvious choice for the newcomer to the Wakefield model. The layout of the propellor is shown on the plan, but written description of how to carve it is very unsatisfactory, and so I suggest that you mark out your block as shown, then if doubtful of the carving ask if possible an experienced modeller to help out. Your local model shop may be able to help.

Wire Fittings. Make certain you use only piano wire for all motor attachments, for the power obtained from 18 yards of $\frac{1}{8}$ " Dunlop rubber will quickly wreck both hooks and model if the wire is not strong enough. 16 gauge wire is used for prop shaft, free wheeler, and undercarriage.

Covering. Use Jap tissue if obtainable on wing and tailplane, and rag tissue on the fuselage. Give wing and tailplane three coats of light dope, and the fuselage three of medium dope. Plasticise after dope is dry by quickly wiping over with cotton wool soaked in a solution of amyl acetate and a few drops of castor oil. Go easy with the castor otherwise the surface may remain sticky.

Flying. The original model flew with $\frac{1}{2}$ " downthrust, $\frac{1}{2}$ " negative incidence on the tailplane and $\frac{1}{2}$ " positive incidence on the wing, but of course others may need variations of this according to the weight distribution of the model. Eighteen yards of rubber $\frac{1}{8}$ " x 1/24" Dunlop 6010 was used folded into 16 strands, which gives a motor 54" long. This was tensioned by applying approximately 100 turns to the motor whilst folded to only 8 strands, then fold to give sixteen strands. The turns will cause the motor to plait itself so that the overlong motor does not cause trouble when unwound.

STOP PRESS

Important Notice

We regret to report that unfortunately owing to economic conditions prevailing in Australia at present the Federal Government has found it necessary to increase the Sales Tax on various aeromodelling items, with the result that *once the stocks now held by retailers are sold* the retail prices of all motors, kits, and accessories will rise by approximately 20%, as the sales tax rate is now 33% on the wholesale price.

Many of the prices given by our Advertisers in this issue may be subject to change without notice.

-
- ★ *A well designed*
 - ★ *model suitable for*
 - ★ *contest work*
-

This type of model is about the most simple, which can give reasonable performance. The cost is only a shilling or two, and it can be built in an evening.

The plans accompanying this article are full-size, and can easily be traced out onto the necessary sized wood by the use of carbon paper, or should you prefer, it may be more simple to trace out the plan onto some thin cardboard which can be cut out to form templates, which in turn can be used to mark out as many gliders as desired. A ball point pen is very good for marking balsa.

Note that the fuselage is in two pieces on the plan, and when tracing it out be very careful to make sure that it is aligned correctly. The wing and tailplane mounting should be in line. Only half of wing, and tail plane are shown, but no difficulty should be had in drawing out full wing and tailplane.

★ ZIPPER ★

Commence construction with the mainplane (wing). Select a sheet of hard, light balsa. Mark on this the wing plan, and cut out with a sharp knife or "Gem-type" razor blade. Trim the wing to outline shape accurately with sandpaper. Note the airfoil section shown on the plan in solid black. The wing must be sandpapered to this shape. Commence with medium coarse sandpaper finishing off with very fine. Check the true centre line of the wing, and cut a deep "V" along this centre line. Do not cut right through. Carefully crack the wing so that the wings can be tilted up $2\frac{1}{2}$ " at the tips as shown in the small front view sketch shown on the plan. The easiest way of doing this is to pin one side of the wing down onto building bench, and tilt the other half upwards so that the wingtip is 5" up from the bench. Cement the centre of wings well with several coats. Leave the wing to dry for as long as possible.

The fuselage requires very hard balsa, or if possible spruce sheet $\frac{1}{8}$ " thickness.

When marking out the fuselage place the template so that the wing, and tailplane mounting is along the edge of the sheet. Cut out the fuselage, and trim to exact shape with sandpaper. Do not round off where the wing and tailplane are to be mounted.

Sandpaper a piece of light quarter-grained 1/16" balsa, then mark out the tailplane, and cut to shape. Streamline the edges with fine sandpaper. Form rudder in same manner, and cement to the centre of tailplane, making sure that it is vertical, and true with the centre line.

When certain that cement is dry, give wings a light sanding and then two coats of dope sanding between coats and after. Treat the fuselage in the same way.

Now carefully push three short pins through the centre joint of the wing. Apply a heavy coat of glue to the top of fuselage where wing is to be mounted, and pin the wing firmly in place. Check that the fuselage is correctly aligned with wings, smooth off any excess cement with finger, and set aside upside down on the bench. Allow ample time for this to dry.

Finally mount the combined tail unit in place, being sure the fin is exactly fore and aft, and by putting the model once again upside down on the board measure the distances that each tip of the tailplane is above the board. These should be equal, so twist it round until they are and then leave to dry.

Before gliding, check all surfaces for warps, taking out any present by brushing on a thin layer of dope and twisting that portion beyond the correct position until almost dry.

Do go to the trouble of walking to your flying field before test-gliding, as backyards are as fatal for these as for other models. Commence with gentle launches from three to four feet off the ground, and trim for a gentle

Hand launch glider for the beginner or "old hand"

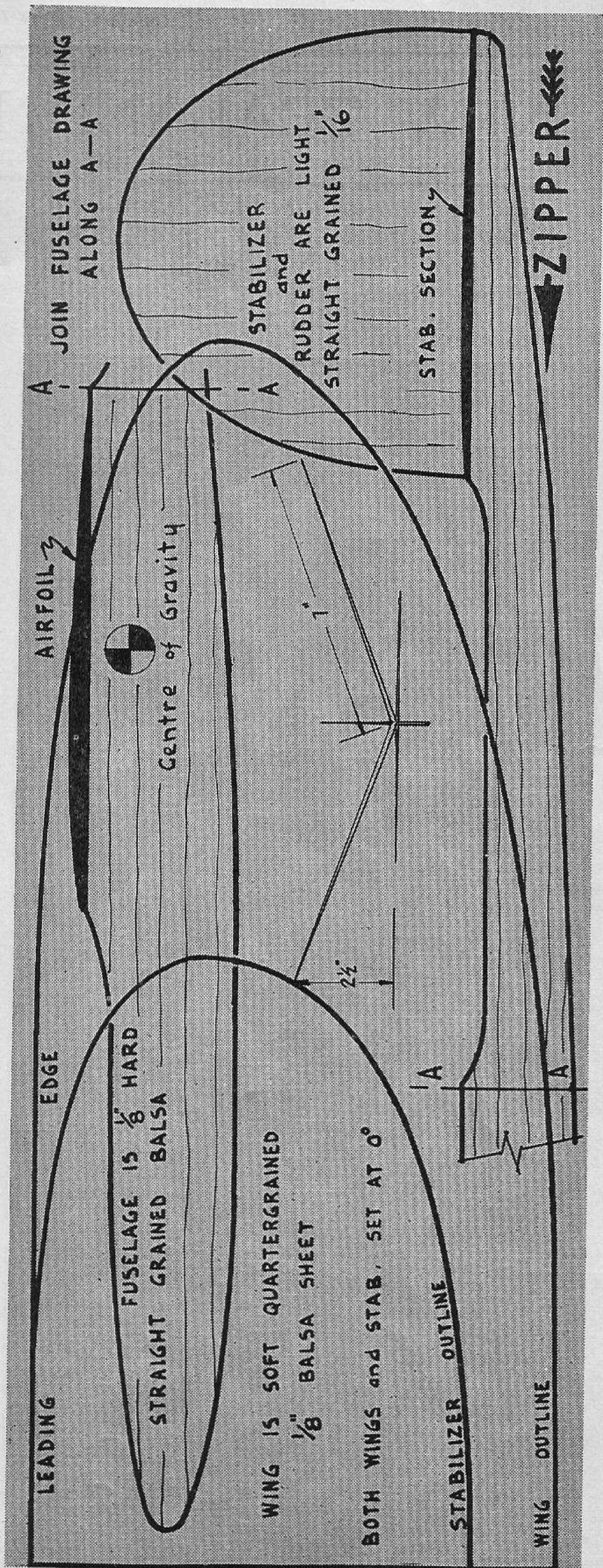
circle to the left (for a right-handed person) by warping the T.E. of the fin and elevators slightly. Use a little plasticene on the nose to correct any stall, but do not do so until the model is first circling well. A little practice soon teaches one to get quite long test glides from even a few feet of altitude.

Now commence gentle launches with the arm held extended, as when bowling a cricket ball, releasing the model at the top of the throw and being sure it is held in a right bank (again for a right-handed person). This type of launch has been found safest to start with. If the model has no spinning tendencies, from these launches, start on the real hurling launch, quietly at first, checking any faulty adjustment, and working up until one's whole strength goes into it.

The ideal at which to aim is for a steep right circle from the launch, pulling round into wind at the top and from then on gliding in a gentle circle to the left of about 200 ft. diameter. (A tight circle is soon found to be critically near a spin, and it will usually do so if the model contacts a thermal).

When flying the model again later, always check with gentle launches first in case warps have developed. If you are interested in this type of model, write in and let us know, and we will then proceed with more advanced models and descriptions of more advanced flying techniques.

★ FULL SIZE
★ PLANS



NEW ZEALAND NOTES - - - FROM LEN PERRY

This is a new section to MODEL HOBBIES and it is hoped that it will prove of interest to Australian and New Zealand readers alike. The writer wishes it to be made known that any views either intentional or unintentional are purely personal ones and in no way represent those of New Zealand modellers in general. The writer would appreciate receiving items of news and inci-

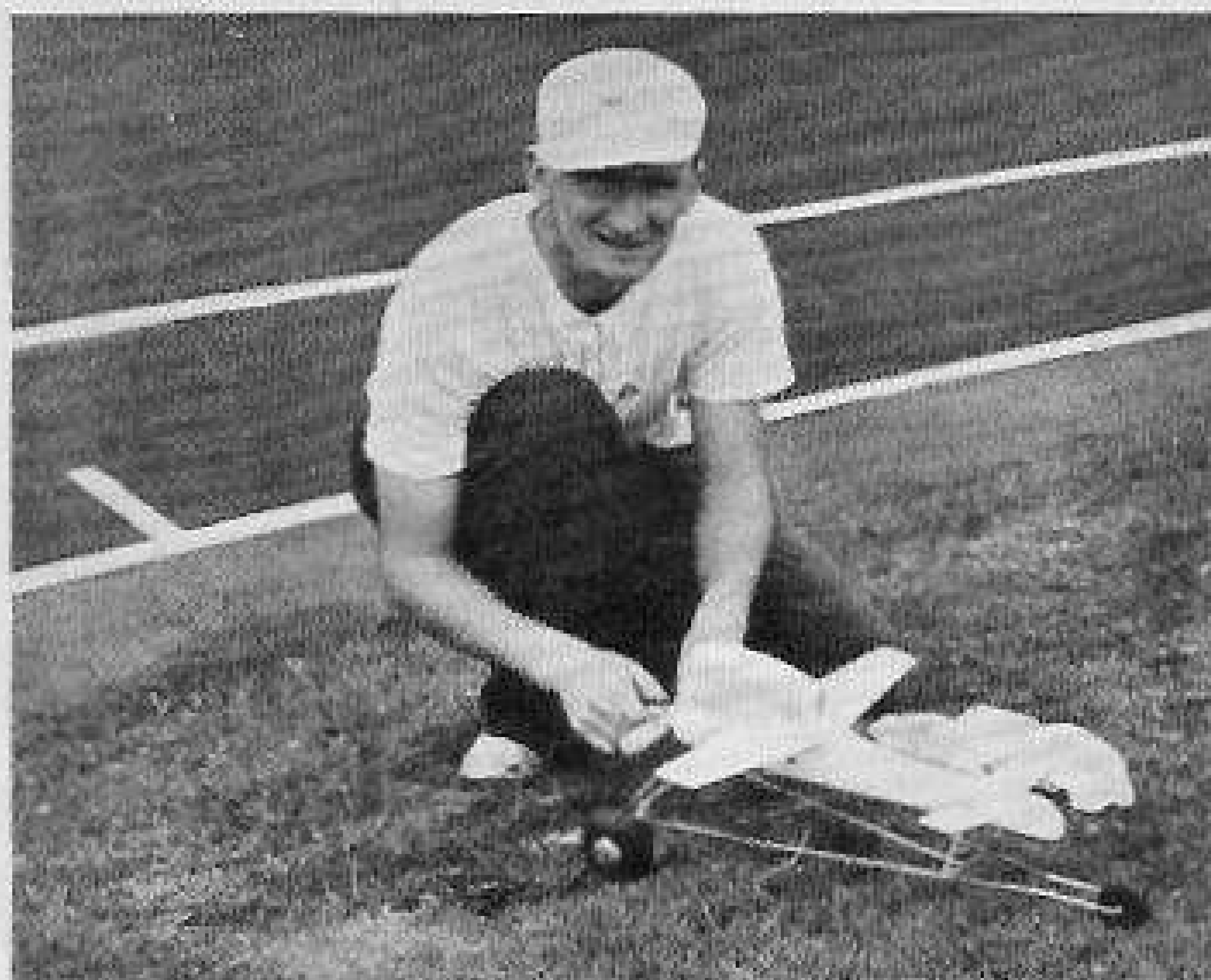
dents accompanied by photographs, if possible, to assist in compiling NEW ZEALAND NOTES and to allow the best possible coverage of N.Z. activities for publication. Address these to New Zealand Notes, c/o. Box 1975, AUCKLAND.

New Zealand has a relatively small population and in consequence has a proportionately small number of active aeromodellers in relation to that of most other countries but model aeronautics in N.Z. has a sound foundation and a good record of international representation in the past. It may be that some of the names mentioned in these notes will, through individual achievements, someday be known internationally.

The mention of international status brings to mind an incident which occurred about two years ago while discussing the technicalities of indoor flying—an excellent topic under the circumstances as neither of us knew much about it—with a visiting Australian modeller. He mentioned Vern Gray and with my national pride coming to the fore I asked him how he came to hear of Vern, to which he replied: "I had heard of Vern, Gray before I had heard of New Zealand." The national pride was left in a rather confused state.

The New Zealand Model Aeronautical Association (Inc.) is the officially recognised body governing the sport here, the venue of the council of management at of model covers are available. The National Championships are conducted annually over the New Year period and is naturally the most popular event of the year. A good time is usually had by all and the last "battle" was no exception. It was held in Christchurch as scheduled despite appalling weather conditions and the lack of rail transport. It did prove, however, that the jalloppy slogan "The Nat's or Bust" is to be taken seriously but "The Nat's and Bust" would have been more to the point. The contest results showed also that it was possible to build a model that could give a good account of itself in severe weather conditions—high winds, rain . . . etc., etc. It did not snow. No contestants were more disgusted with the weather than the members of the host club who appeared to be in fear of being held personally responsible for it. One of the advertisers in the souvenir programme headed his space: "Welcome to the Sunny South Island." Never have I seen such a high rate of crashery. The ingenuity of some of the field repairs was amazing even if not very practical in some cases. The control-line day was the only exception and was "one out of the box" with scarcely a breath of wind.

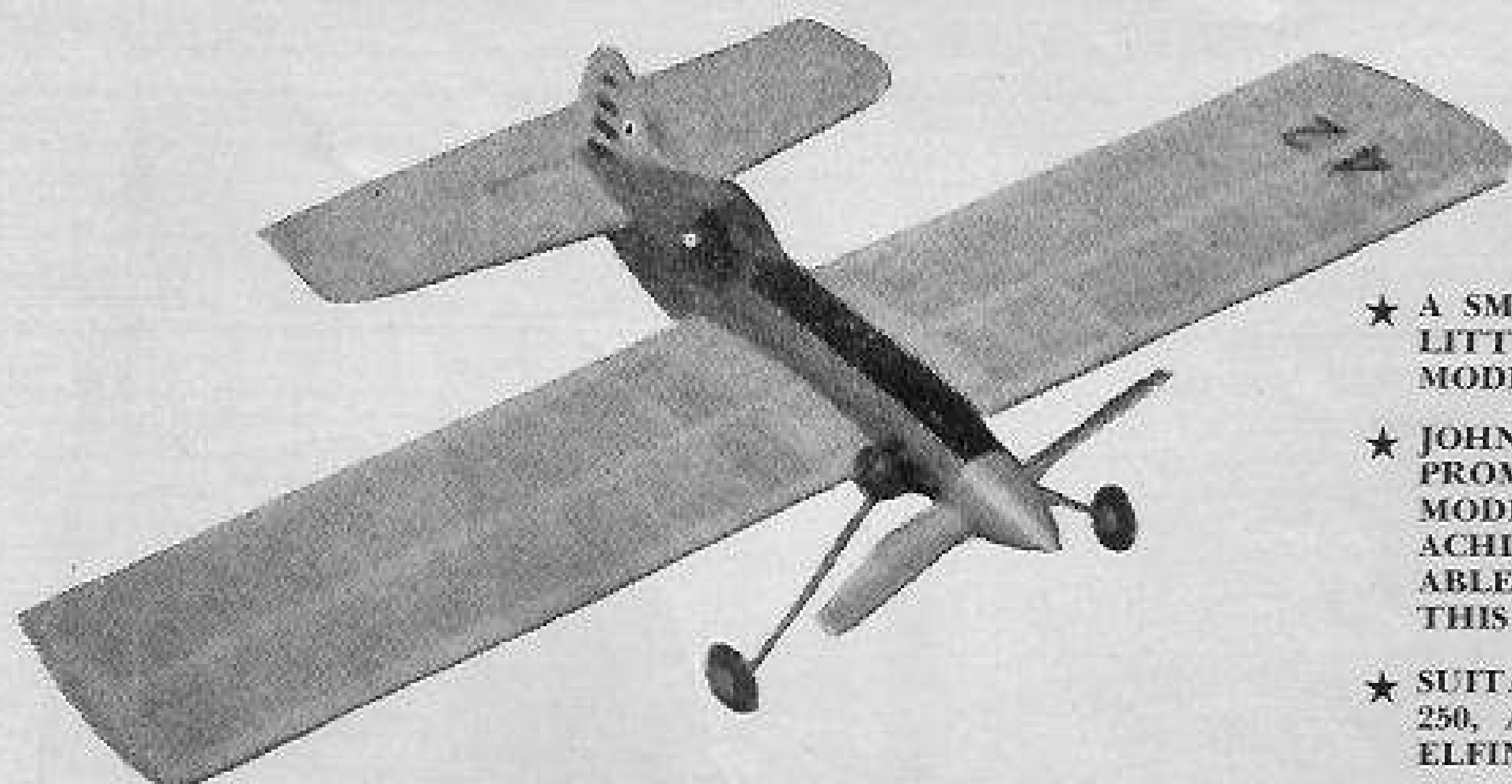
After Les Wright's demonstrations at the previous Nationals at Hamilton a radio-control event was staged at Christchurch and the performances were good under the circumstances. A radio event is scheduled for the (Continued on page 29).



TOP.—Merv McCrorie with his winning Class III speed model changes props between flights at the Christchurch Nationals. Merv holds the present class III record of 146 m.p.h.

CENTRE.—Brian Marsh, well-known N.Z. Wakefield modeller whose models have performed so well in overseas contests.

BOTTOM.—"Well! We've checked everything else so let's have a go at this button," says Reg. Truman. Wynn Craven agrees with the suggestion and lends moral support.



★ A SMART LOOKING LITTLE STUNTER OF MODERN DESIGN.

★ JOHN SNELL—PROMINENT ENGLISH MODELLER HAS ACHIEVED CONSIDERABLE SUCCESS WITH THIS MODEL.

★ SUITABLE FOR SABRE 250, AMCO 3.5, E.D. 246, ELFIN 249.

General Notes on Design

'Tarbaby' is an attempt to combine easy construction and reasonable semi-scale appearance with a full stunt performance. Wingspan of 36 in. was chosen because most commercial timber is that length, and then 7 in. chord gave a net area of approximately 245 s. in.; also, greater spans are awkward to transport. For ease of construction no dihedral was incorporated. It was felt that Amco stunters have tended to be too large and bulky and it was decided to reduce the structure of 'Tarbaby' to a practical minimum, which, in any case, will facilitate stunting since the overall moment of inertia is thereby decreased. The moment arm (c.g. to elevator hinge) was pegged down to 11 in. (1.6 x wing chord) and this demanded positioning the engine just ahead of the leading edge of the wing. With this set-up the c.g. would tend to a rearward location, but this

38" W/S

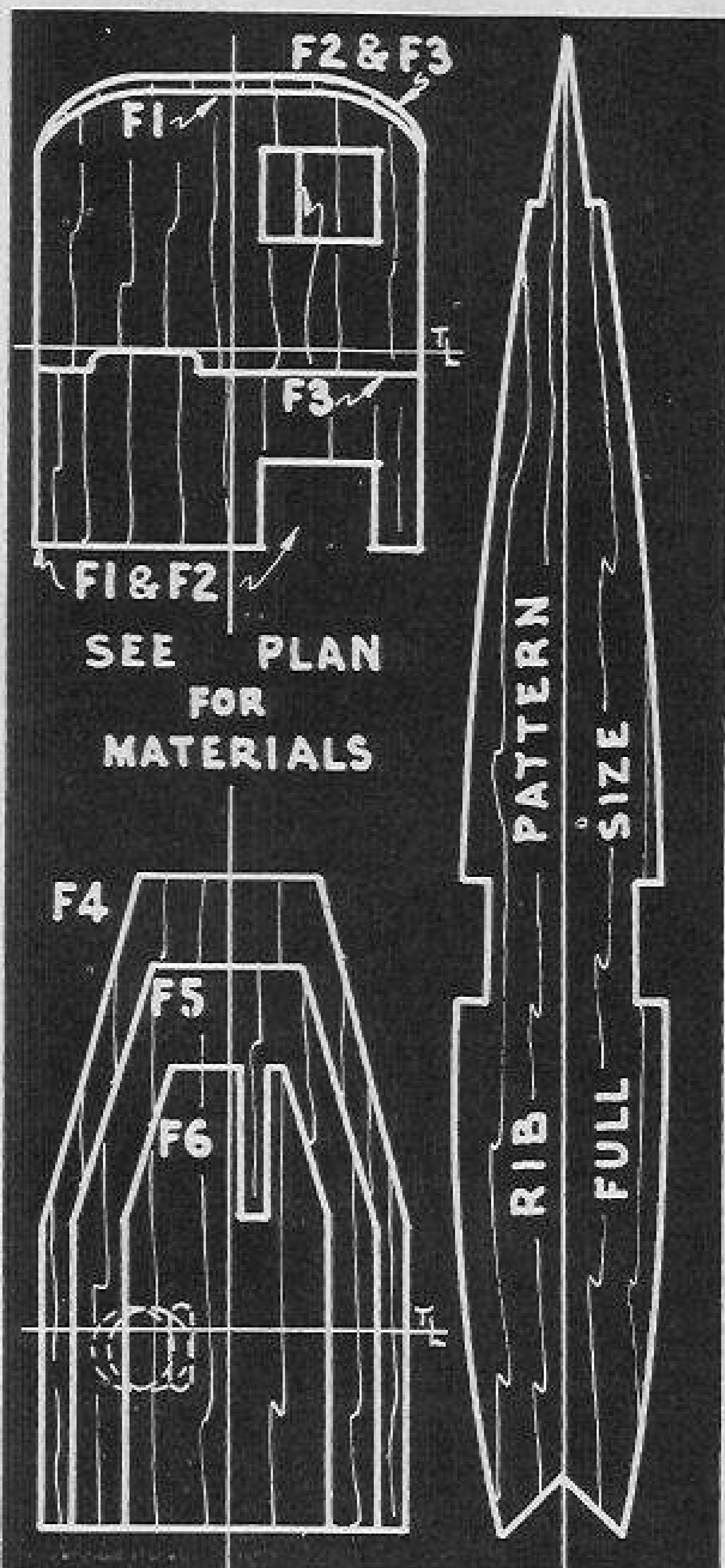
Tarbaby

STUNTER

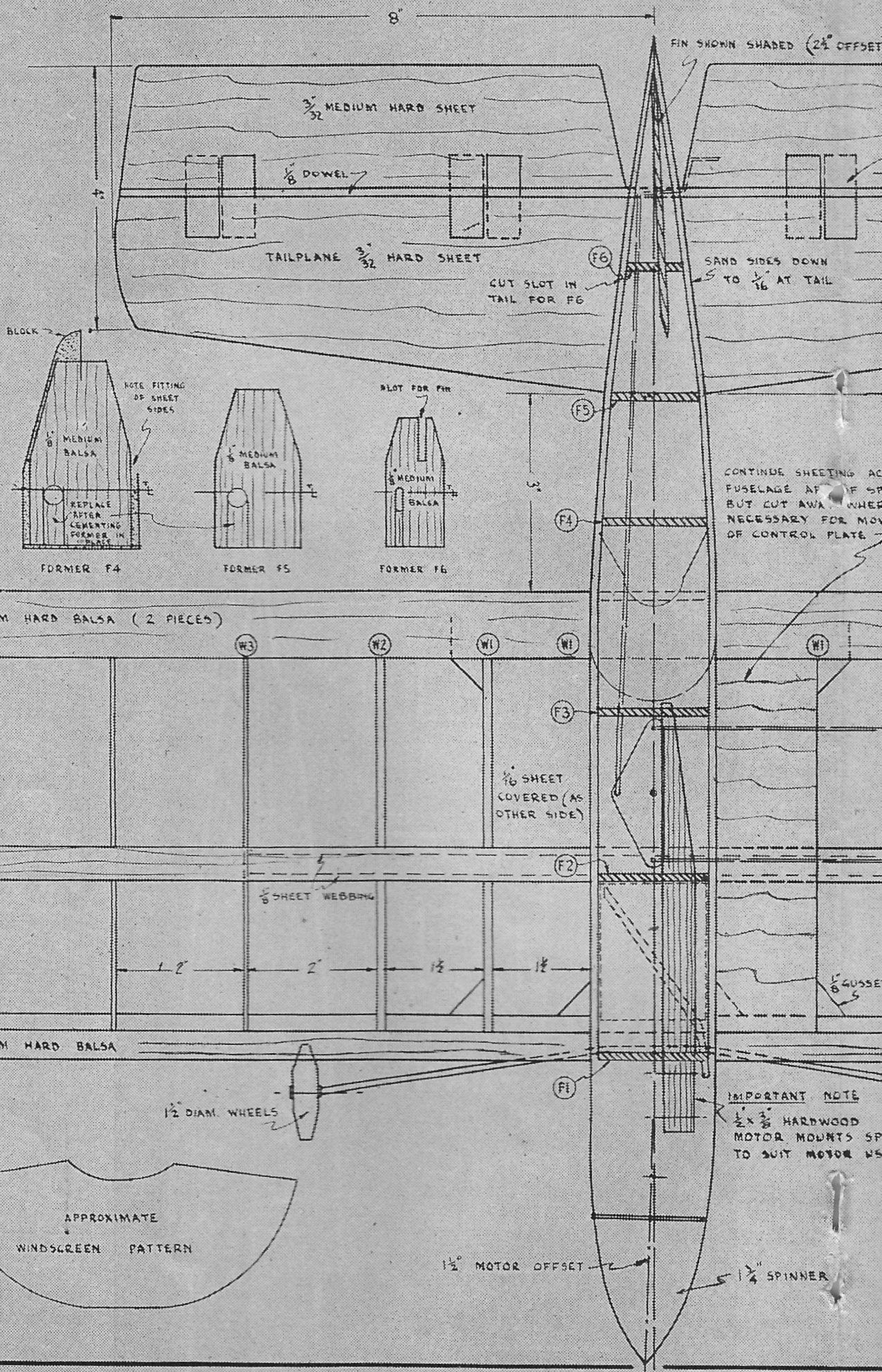
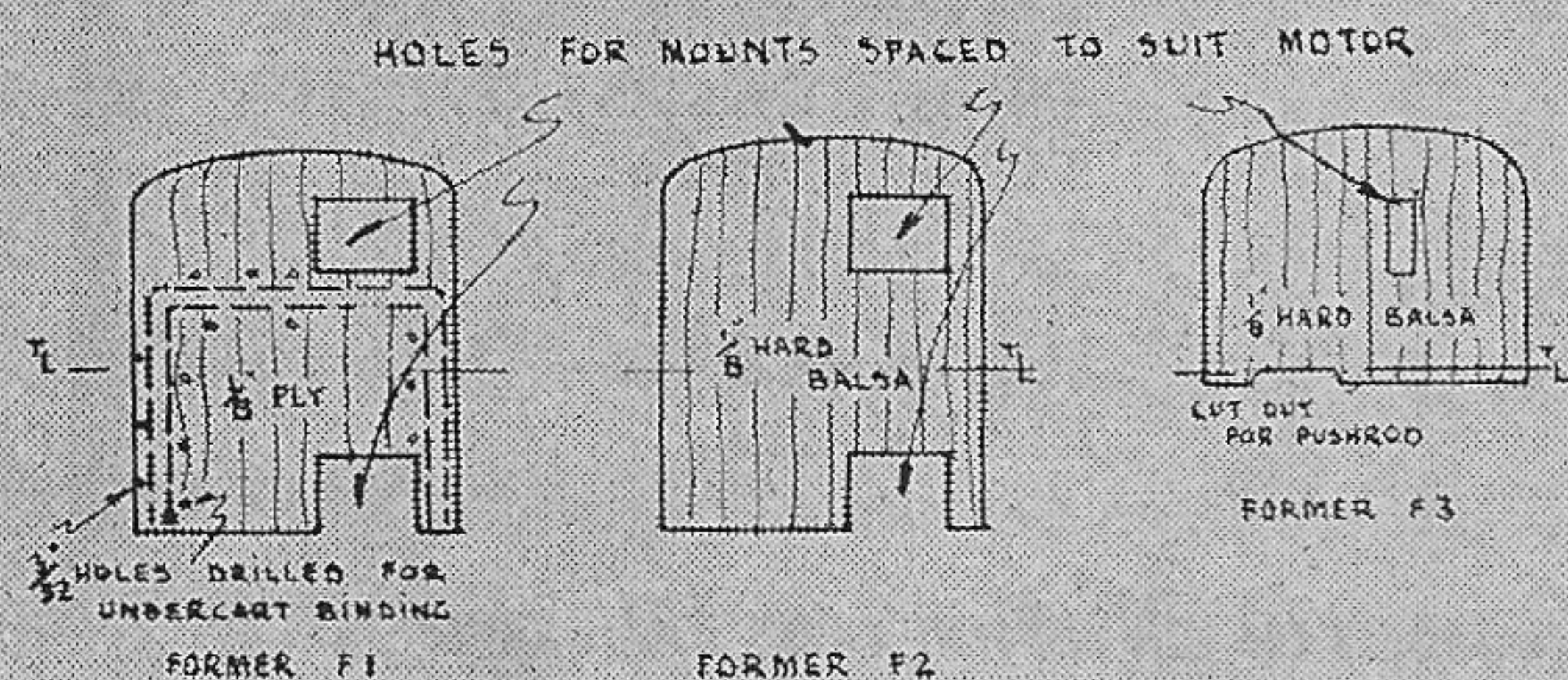
BY J. C. SNELL

fitted well with the obvious bellcrank position. Fixed undercart was a 'must,' while tailplane area was generous (28 per cent.) to assist stability with such a short m.a. Elevator claimed 44 per cent. of total because a large elevator moving through a small angle would, it was felt give smoother stunting than a smaller area working through a larger angle. In normal stunting about half the possible movement is used—only call upon all 40 degrees in an emergency. And, since a stunter is primarily a vehicle of pleasure, a slight element of caricature was introduced into the otherwise semi-scale proportions.

All-up weight of the prototype is 18½ ozs., and, although this is some 2 ozs. heavier than intended, the wing loading is still but 10.5 ozs. per sq. ft. Weight of this Amco is 4½ ozs. or about 23 per cent. total weight. Some stunt merchants may consider this disproportionately small, but with the power output of current engines being up to three times that of engines in use 3

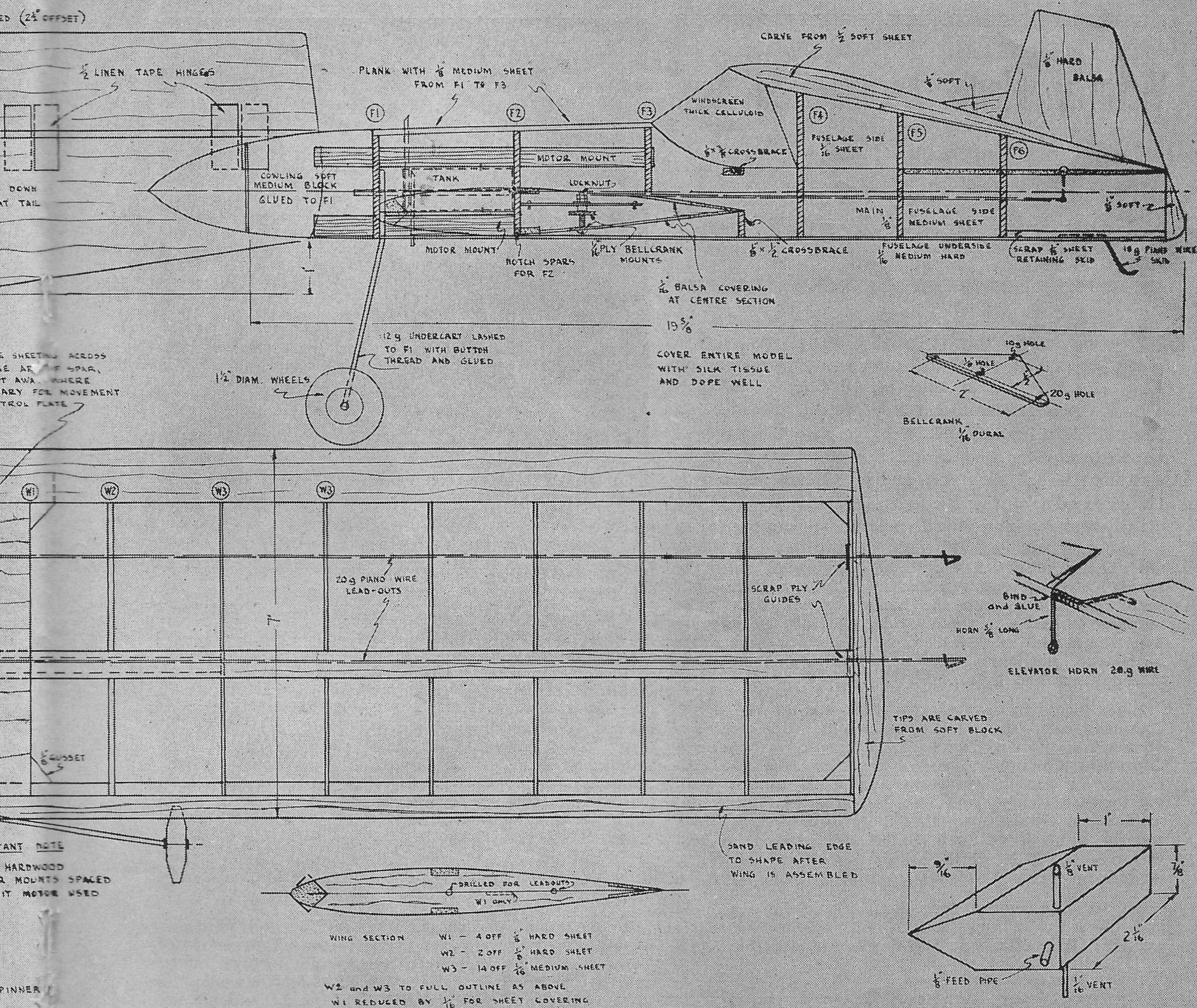


A horizontal scale bar with markings from 0 to 6. The markings are labeled with numbers 0, 1, 2, 3, 4, 5, and 6. The text 'SCALE OF INCHES' is printed below the bar.



Although primarily designed for the Amco 3.5, the D.C. 350, Sabre or Elfin 2.49 are equally suitable. As planned for the Amco the engine bearers are 15/16 in. apart: the same positioning holds for the Elfin, but for the D.C. 350 the distance between the bearers and the depth of all formers need to be increased by $\frac{1}{8}$ in. For 2.5 c.c. engines the wingspan should be clipped by 4 ins. The designer would not recommend the fitting of 5 c.c. motors, which, in any case, would call for an extensive rework. If a radially mounted engine is fitted, half size 'bearers' should be retained to 'anchor' Fl to the main fuselage structure. Gloplug engines should dispense with

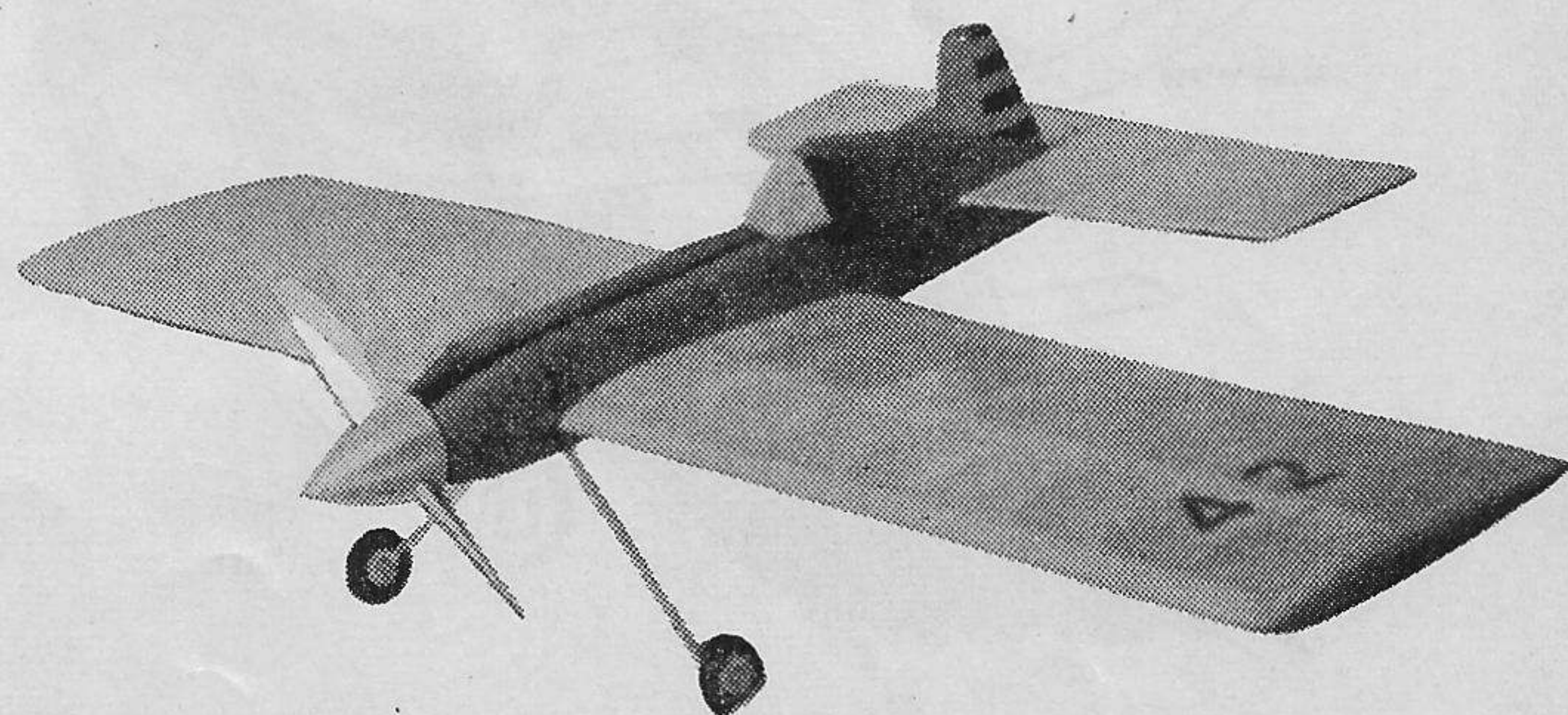
Wing: Cut two W2's, then, using these, cut fourteen oversize blanks of 1/16 sheet, sandwich these between the W2's and carve and sand to shape. Take seven and drill for lead-outs; elongate holes in first three ribs to allow for bellcrank movements. Cut four oversize blanks of $\frac{1}{8}$ sheet, carve and sand to W2 profile, then reduce by 1/16 in. and cut slots for bellcrank mounting—these are W1's. Wing may now be built flat on board in conventional manner.



Quick method wing construction: pin L.E. to board, mark rib positions, erect end ribs and secure with gussets (see sketch on plan). Use set square to check that ribs are perpendicular to L.E. Then, working from each end, add other ribs, using set square and 'sighting' on end ribs. When all are erected, add spars and T.E.

While this is drying, make F1, F2, bearers, form undercart and lash to F1. Make tank, and cut away spars and L.E. where necessary (see plan). Using slow drying fish glue, accurately add F1, F2, bearers and bellcrank mounts; leave overnight.

Make bellcrank, solder on lead-outs and pushrod and bend over end of this (to take elevator horn). Thread lead-outs through ribs and form loops. Locknut bellcrank in place.



(Continued on page 19).

Victorian Model Aeronautical Ass.

Hon. Sec.: R. A. Rose,
Railway Terrace, Laverton, Victoria

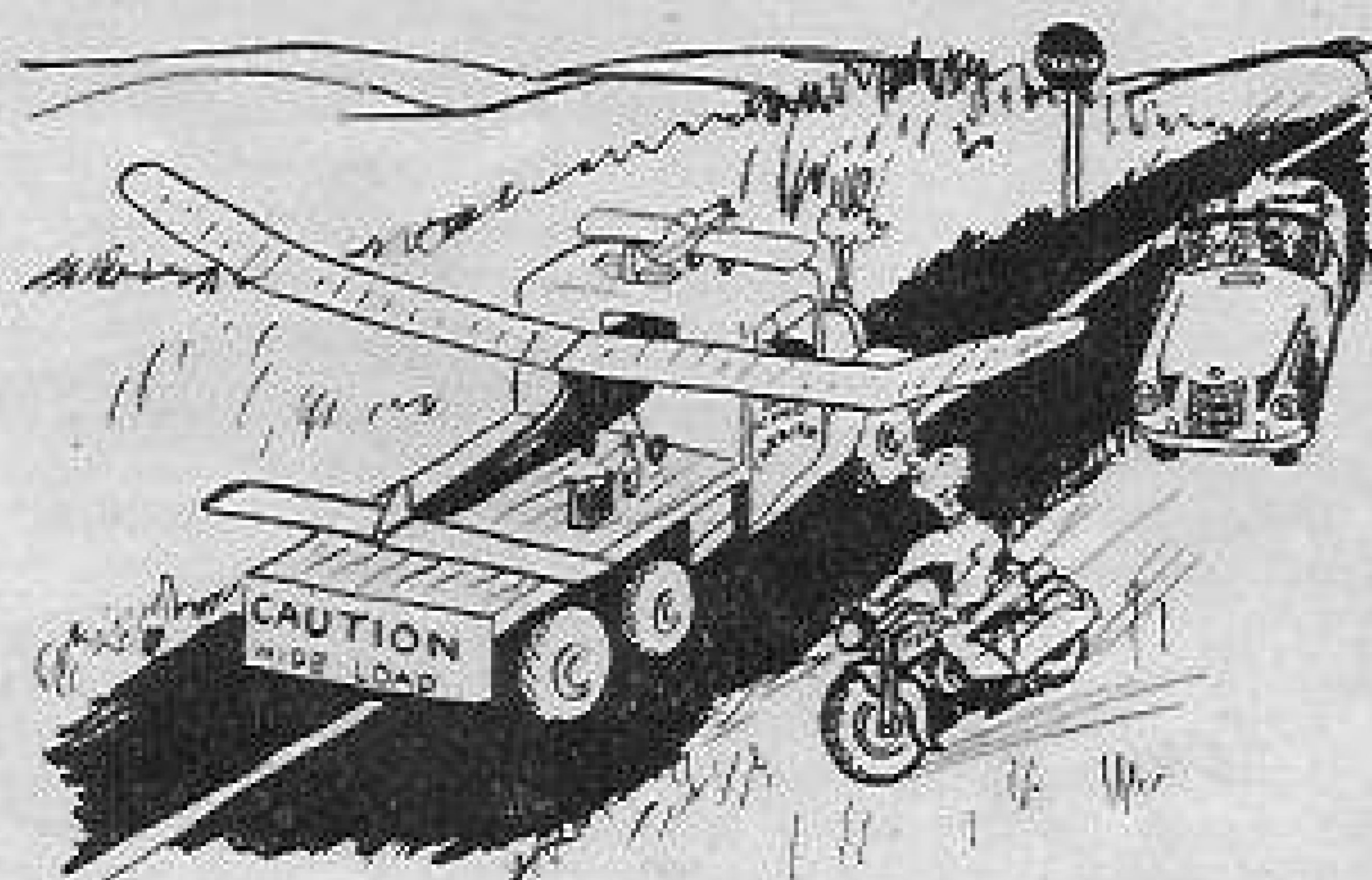
Notes from Monty "Zilch" Tyrrell

Free flight Gala Day at Lara, Geelong, was made a picnic day. The Open Gas contest was won by Alan King with a 16.1 ratio using his Dooling 29 Nationals winner. Ron McDuhie and Roy Moodie also did well using an Elfin job and A.K. & B. Torpedo Civity Boy 74 respectively. Reg Cooper did a couple of fine flights with his E.D. 3.46 radio ship and Jack Elliott had a scale f.f. gas model of the Nieuport 17 (the Aeromodeller plan) powered with a Frog Diesel. It was equipped with a pendulum rudder and looked most realistic in flight. On one flip it got a riser and disappeared into the clouds O.O.S. Several minutes later it came into sight again and glided onto the horizon somewhere. The sailplane contest was won by John Lee with his huge 11 foot wingspan ship. All types of f.f. models were much in evidence and because of the perfect weather an enjoyable day was had by all.

Note: Please be warned that the date for the major U-Control meets that were published in the last editions do not now apply. The V.M.A.A. will be holding a Controline Championships Week-end on 27th and 28th October in lieu of the stunt and speed contests laid out for 28th October and 18th November. All speed and team speed eliminations will be held on the Saturday and the Team Speed finals, Junior and Senior Stunt and Flying Scale will be on the Sunday. Interstate entries are invited for these Victorian Controline Championships.

On 1st July another free flight picnic day was held and there was a huge roll up in absolutely perfect weather. The Challenge Shield was won for the Wind-

LIGHT WING LOADING IS THE THING.



Allan King's inspiration, interpreted by Monty Tyrrell.



TOP RIGHT.—Speed merchants Lim Joon and Norm Bell, with heads down and arms up. Tending to their speed models at a recent meet.

sor Club by Ron McDuhie whose Elfin gassie did a 20.1 ratio for the winning flight. The Dandenong Club came second through the effort of Messrs. Payne and Damm. The M.A.A.C.V. rubber trophy was won for the Eastern Suburbs by Jimmy Fullarton whose Wakefield job did five minutes in the still air, a fine flight. Six radio ships were present and four flew with various degrees of success. Nats winner Jack Hearn and Mac Munro definitely had a run of outs but Keith Hearn really had the crowd on their toes with his ship which was the most successful of the day. Reg Cooper did some fine flying with his job mentioned the last edition and B. North-east's Mills 2.4 c.c. original design with a home-made unit put on a good show. Nats junior stunt champ, Don McLaren's job was O.K. on the glide but no control under power.

In the sport flying arena Noel Harding and Ron Halstead amused the crowd all day by towing Ron's glider up to a great height behind Noel's, eight foot gas model and letting it off by a fuse. Much easier than running with a towline. Les Randell had a fine f.f. scale model of a Sopwith Pup which did some pretty flying. See photo . . . F.F. scale gassies seem to be the latest craze after the Nieuport of the 17th June show. Chris Gallagher has given away practising the violin to work on an Avro 504K and Norm Bell has a Stinson 105 about ready to go. Bruce Hearn also has something in the air which hasn't made an appearance yet. Several others are contemplating various jobs so this event at the Nationals may prove interesting, much more so than expected.

On the news side Alan King has lost and found his Dooling 29 Nationals winner. Alan slightly altered the nose moment of the ship and had it performing his previous successes and made the ship one really out of this world. Unfortunately the timer stuck and gave the ship a 77 second motor run. Search parties helped Alan over the past few weeks. Common thinking was that it went in the river and was carried away by the swiftly flowing current in the vicinity of where it was lost just on dark. The river and all marshes and trees were surveyed for a few miles radius of the region where it was

seen to come down. The model was eventually found in a tree by some young lads.

I have equipped my Go-Devil with a rack to carry a Marine smoke bomb, she stunts just as well with the extra 10 lunches and the smoke streaming behind it looks very spectacular except that the slipstream speeds the combustion and the bomb doesn't smoke very long, only about 45 seconds, but while it's going it's really something.

Bob Rose, who is not and hasn't been an active aeromodeller but always had the game and those in it at heart has successfully flown. Keith Hearn kindly risked his Little Zilch stunter and after one dual go Bob soloed successfully. After a couple of flights Keith handed the job over to me so's Bob could see some stunting from the centre and I showed him a real Tyrrell pattern with a Zilch complete to the explosion at the end of it when the motor went roaring out. Bob is now considering slapping or having one slapped together for him a bomb for his free Frog 500, which he was tinny enough to win in a raffle and really be in it instead of on the sidelines lending a sympathetic ear to complaints and technical advisers.

In the speed line Mr. A. G. Hull and Max Wright are fast catching Herb Henke. At Surry Park a few weeks back Mr. Hull tuned his McCoy 60 to the tune of 127 and 128 m.p.h. and Max was hitting the 124 and 126 with his Vampire 60. Max is now experimenting with a crank shaft valve Vampire on the lines of the Anderson for stunt and free flight work. News is vague at the moment but it will be a glow-ignition ringed job and something definite on it's performance may be known soon. A few more 60's which seem to be out at the moment except for a few, would be welcome on

the control and f.f. contest fields and yo-yo demonstrations. The f.f. weight rule is against them and if they aren't competing against other classes there seems no justification for not allowing them a lighter power loading. They are diving fast under the present set up. There were none at the N.S.W. Championships and there will be twice that amount at the Victorian Championships on current trends and that doesn't help any.

The present class B ships that are any good are the size of a 60 on a lighter loading so it cannot be said that the big model needed are the cause of their disappearance.

Monty Tyrrell

Tarbaby (cont.)

Cover centre section with sheet, and cut fuselage sides while drying, but drill and chamfer bearers before pre-cementing sides into position. Add F3 and crossbraces and join fus. sides at tail. Fuel proof inside nose. Cut out, assemble and sand tail surfaces and cement F4, F5 and F6 into place. Next pre-cement tail into position, not forgetting to hook up the controls.

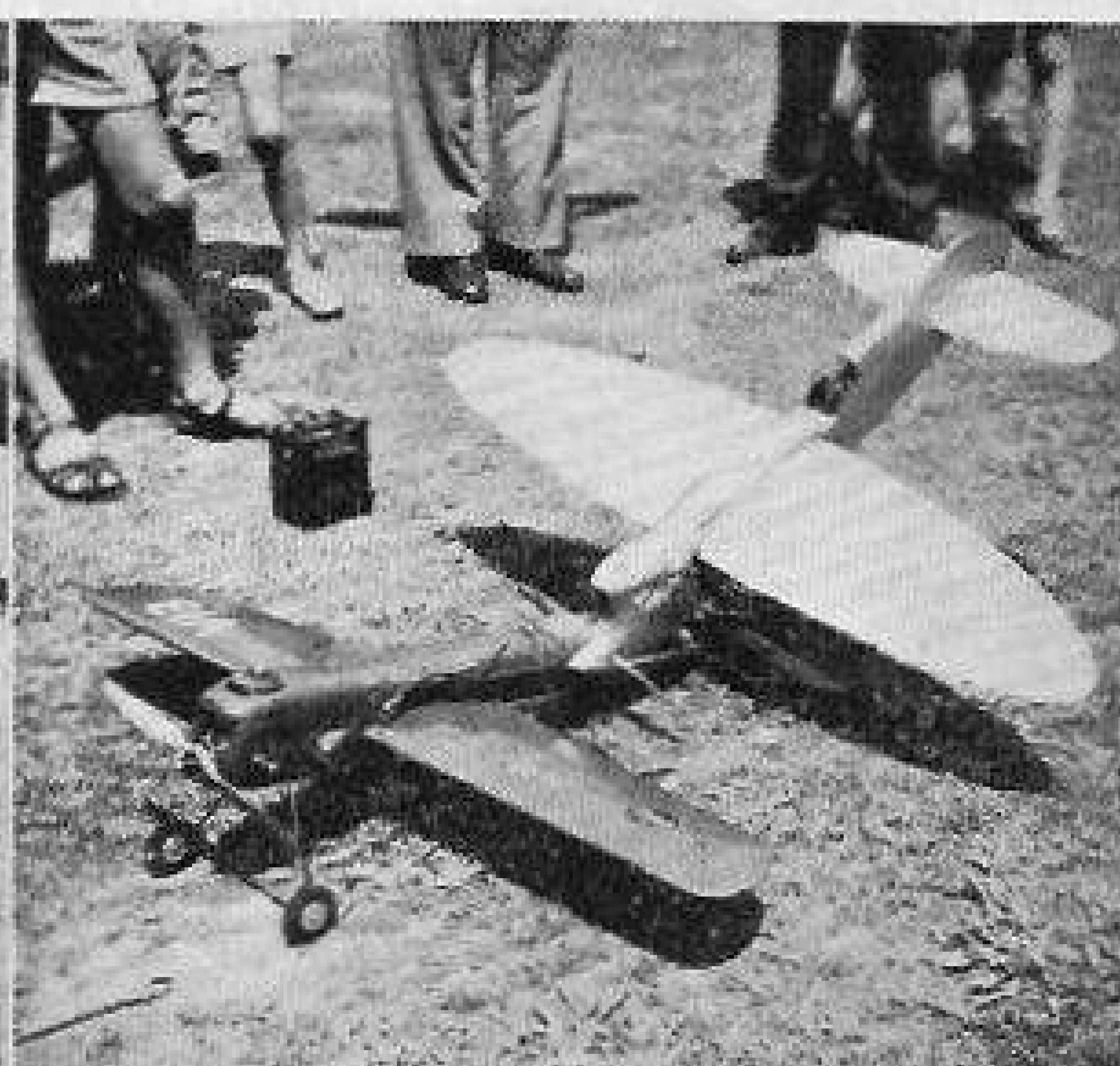
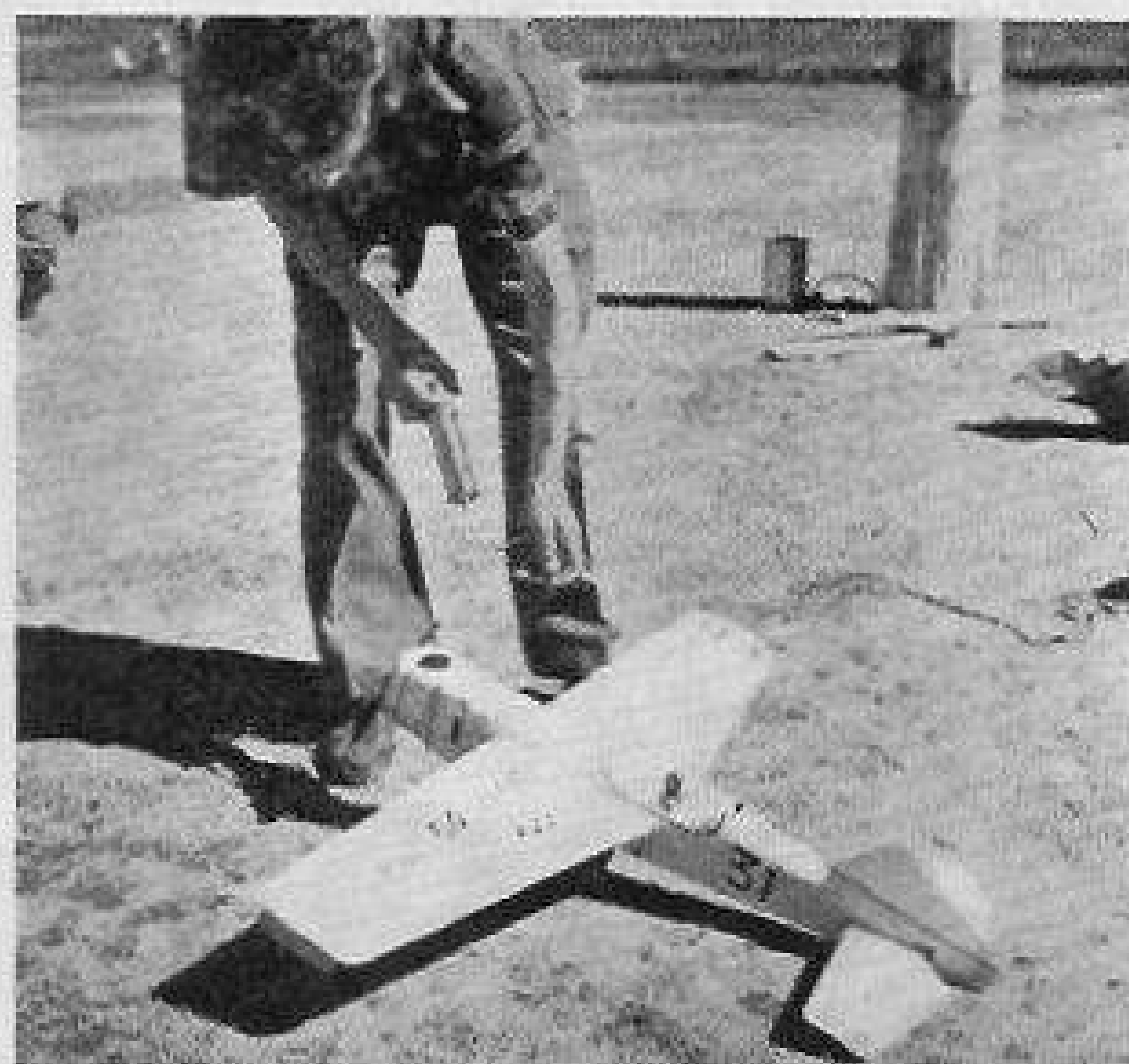
Plank fus. top and add rear sheet sides. Lightly cement rear fuselage top in place, carve, remove, hollow out, replace. Add fin and fillets, also wing gussets, lead-out guides, lead weight, spar webs and wing tips. Form tail skid, shape retainer and add to fuselage. Finally pre-cement and affix underside.

Solder on wheels. Fit engine, block ports, carve cowling and then remove. Sand smooth whole structure and give one coat glider dope. Cover with coloured tissue—coloured dopes are out! Double strength Modelspan on wings, single strength on tail and English smooth on fuselage. Black anti-dazzle strip aids appearance. Dope and fuel-proof (not forgetting inside cowling).

Fit TrueFlex 9 x 8 cropped to 8½ in.—also good for Frog 500 because of low r.p.m. at which maximum torque is developed. Fly on steel lines—50 ft. on all but windiest days. Perhaps advisable to restrict elevator movement for first few flights!

LEFT.—Johnnie Lamont's class "C" team speedster.

RIGHT.—The big T/Slers in trouble. This should be a warning to T/S pilots to walk out when their motor cuts, and to keep their models out of the landing area during pit operations. Photo shows Jack Black's model as it landed on top of Monty Tyrrell's. **MECHANICS must pull the STATIONARY MODELS OUT OF THE LANDING CIRCLE.**



RADIO CONTROL

★ QUERIES ★

Max Starick will attempt to answer all queries received on radio control.



TOP.—Well-known modeller Dennis Allen, member of the West Essex Club (U.K.) with his radio-controlled "Spitfire" powered "Dumbo," which is now considered oversize in radio models. The lightweight units now available allow much smaller models to be operated by radio.

Would you like to build a Radio Controlled model?

If so, this short article should help you over some of the beginner's queries.

Max Starick, who has had considerable success flying Radio Controlled aircraft gives us the answers to the following questions.

1. Qu. Do I need a licence to operate radio control gear for model aircraft?

Ans. The usual amateur licence is not necessary, BUT a permit MUST be obtained from the P.M.G. wireless branch.

2. Qu. What is necessary to obtain this permit?

Ans. The circuit of the receiver and transmitter to be used must be submitted, in triplicate. Details of type of experiments (radio control of model aircraft) to be carried out. Location of areas where unit will be operated. Times when equipment will be in use.

3. Qu. What type of equipment can be used with this permit?

Ans. Commercially produced units may be used providing the power input is not above TWO WATTS, and that the transmitter is working on the allocated frequencies, which are either 40.66 to 40.7 or 26.96 to 27.28 megacycles. It is most important that these bands are strictly adhered to, for should they be abused it is quite possible that modellers will be stopped from using radio gear without an amateur licence, which entails a great deal of effort to pass the necessary examinations.

4. Qu. Can a modeller construct his own unit?

Ans. Yes, home-made gear can be used, providing it comes within the specifications laid down by the P.M.G. For successful operation a knowledge of radio is desired, if not essential.

5. Qu. What is a suitable type of model?

Ans. A low-powered, inherently stable model, with rugged construction. The "Rudderbug" designed by veteran radio control flyer Walt Good is considered ideal for those who want a fairly large plane. With the lightweight gear that is available the radio control trend is toward smaller models powered with motors of from 1.5 c.c. capacity. These smaller planes are every bit as successful as the larger, and of course are much cheaper to build, and appear to be more rugged in comparison, because of their more compact structure.

6. Qu. How much will a radio unit complete ready to install in a model cost me?

Ans. Several units are available at prices ranging from around £15 to the expensive multi-valve sets which cost anything up to £30 or £40, but of course if you have the knowledge to build your own gear or know a radio enthusiast who will help you, then a few pounds will cover the cost of the components. Remember that if you can obtain the use of another modeller's transmitter, or can club together with other chaps who wish to fly radio control to buy a transmitter then the cost is reduced considerably. Only one transmitter can be used at a time—unless different wave bands are used—and so one transmitter amongst a group is all that is necessary.

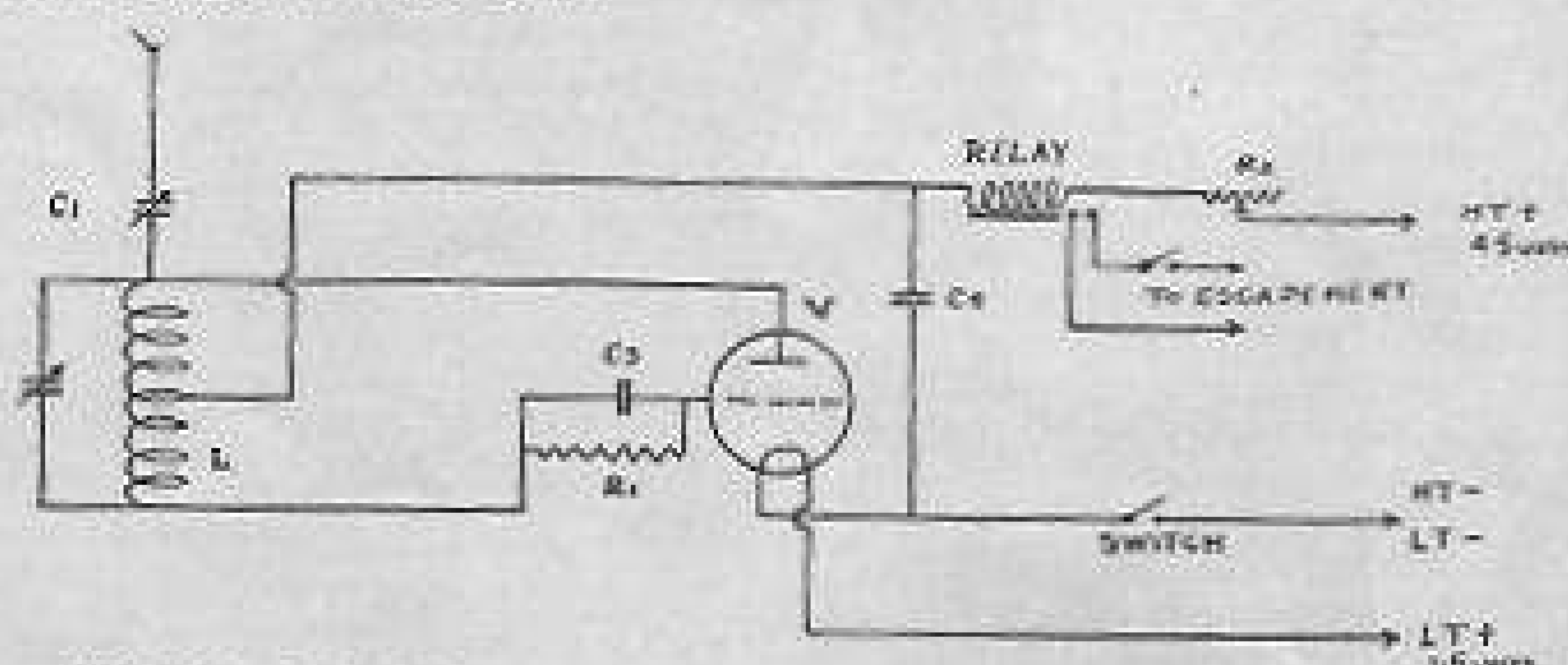
INSTRUCTION FOR TUNING RECEIVER

Set up the receiver, and attach about 36" to 50" of aerial. Connect meter with 0 to 5 milliampre full scale reading in series with H.T. batteries, have the potentiometer turned to zero. Switch on, and when the potentiometer is advanced a current reading should be seen on the meter, adjust to 1.5 milliamperes. Both tuning, and aerial trimmers should be screwed half way out.

Switch on the transmitter, and depress key, then with tuning trimmer tune to transmitter frequency, this will be recognised by a sudden drop in current reading on the meter. Adjust for maximum drop and sensitivity with the aerial trimmer.

ALL TUNING is to be done with an insulated tool, such as a piece of plastic rod, or knitting needle shaped to a screwdriver point. This is necessary to prevent hand capacity, which would make tuning impossible.

Do not allow current to exceed 2.5 milliamps as otherwise the valve will be ruined. Always remember that the lower the current through your valve the longer it will last.



C1. 3.30 Pf Trimmer.

C3. 0.001 Mf Condenser.

R1 4 megohm resistor.

R2 Potentiometer 5,000 to 50,000.

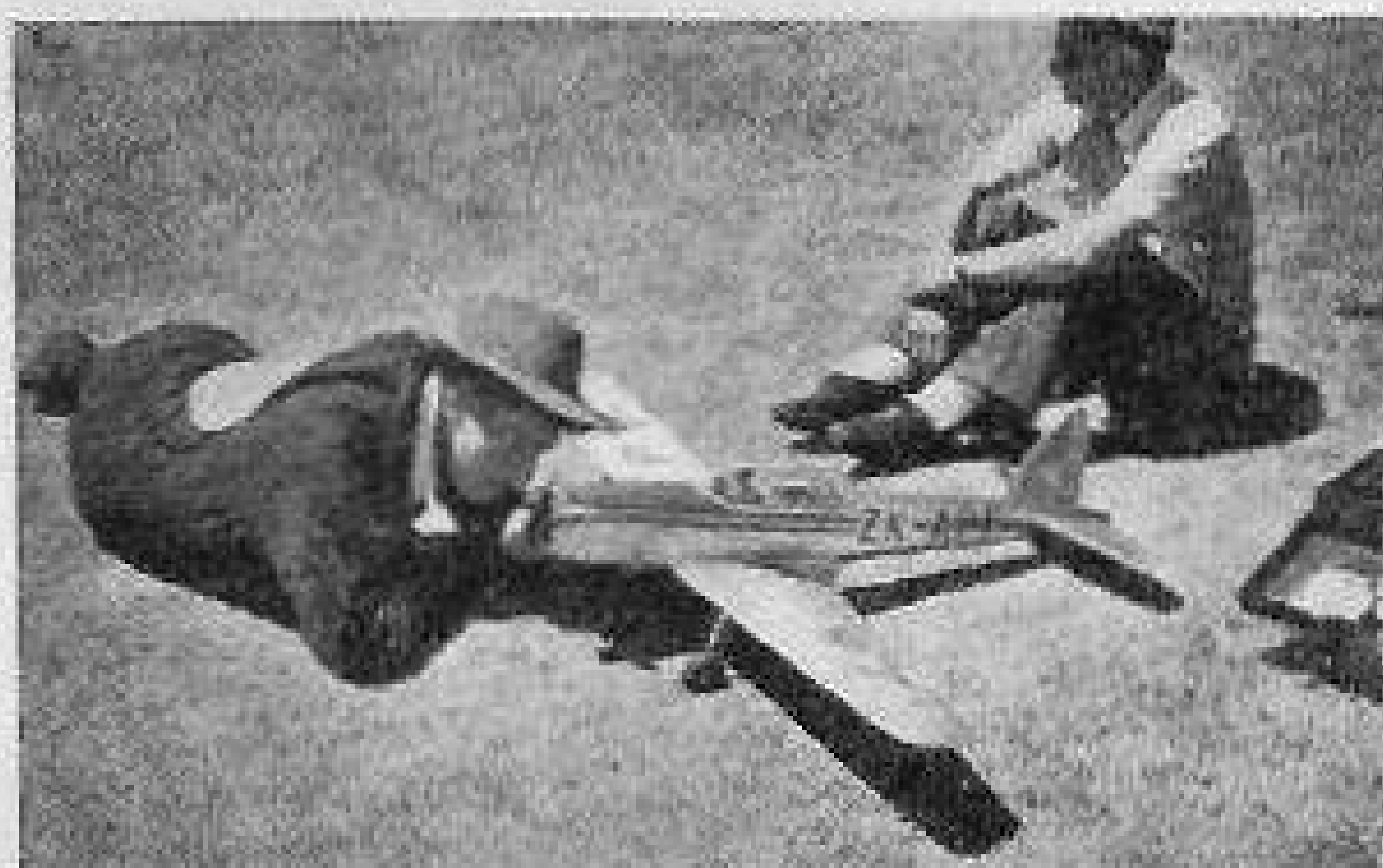
L. 23 Turns 18 guage copper wire $\frac{1}{8}$ " diameter.

V. XFG-1 Hivac Gas Triode.

Relay 3,500 to 6,000 ohms.

C2. 3.30 Pf Trimmer.

C4. 1 Mf Condenser.



N.S.W. News

M.A.A. of N.S.W.

Hon. Sec. J. Dunkerton
15 La Mascotte Ave., Concord

M.F.C. and E.C.S.C.

Hon. Sec. J. B. Scott
Box 2278, G.P.O. Sydney

WESTERN SUBURBS MODEL FLYING CLUB

On Saturday, 14th July—the control-line day—flying took place at St. Luke's Oval, Concord, whilst the following day Campbelltown was the venue for the free-flight events.

At the control-line contest main interest was centered on the open stunt event as everyone was keen to see how the top-line stunt merchants fared.

MAX CUMMINGS flying a Fox 29 powered job was unfortunate in squashing in at the bottom of a vertical eight, but was soon in the air again, giving a good account of himself.

BARRY ANDERSON, flying a Frog 500 powered Stunt King gave a fine demonstration to place first, one point ahead of **G. Brown** (Western Suburbs) who piloted an Eta 29 job to score 232 points.

NEIL WHYMARK (Eastern Suburbs) finished in third place flying an Elfin 149 powered model. Neil scored 226 points.

All these lads are keen types and should present quite a threat at the next Nationals.

GEORGE BEECH (North Shore) won the class B team speed event with a Veco 29 original design with

B. VINEY in second place with a Mercury Mk. I. powered by a Frog 500.

TEAM RACING does not seem to be catching on in N.S.W. to the extent that it has in other States. This is to be regretted as it has good spectator value and provides fun and thrills for those involved.

Speed events were being run off concurrently, but bad luck dogged most of the competitors, few managing to register official flights.

Class A1 and A2 combined; i.e. 0.25 c.c. was won by **VAL ROCHFORD** using an Elfin 249 model, at 78.3 m.p.h. somewhat slower than usual.

DON SIMPSON carried off Class A at 79.3 m.p.h.

Most spectacular speed flight was by **BILL NORMAN** of the newly formed Northern Suburbs "Falcons." His Elfin 149 job was doing an estimated 85 m.p.h., but proved difficult to control and wrapped the lines around the pylon. On his unofficial times in A1 and A2 speed he will present a serious threat to present Australian records. Bill also won the A1 and A2 team speed event with veteran **EDGE ADAMS** in second place.

ARTHUR WILD once more carried off the flying scale event with his beautiful D.H. Chipmunk, also seen was a Tiger Moth which flew with great realism into second place. G. Whymark's Howard "Ike" placed third.

Novice stunt event was won by **BOB DENNING** of the Falcons who flew an Elfin 249 powered "Little Wizard." **BRIAN PERROTT** of the M.F.D. finished in second place and **GRAHAM SIMPSON** (Western Suburbs) was third.

Sunday began with heavy cloud and all signs of rain apparent. This, however, did not dampen the enthusiasm of the competitors and events were got under way with little or no difficulty.

The chuck glider event was won by V. Rochfort with **PHIL STANLEY** (Manly-Warringah) in second place.

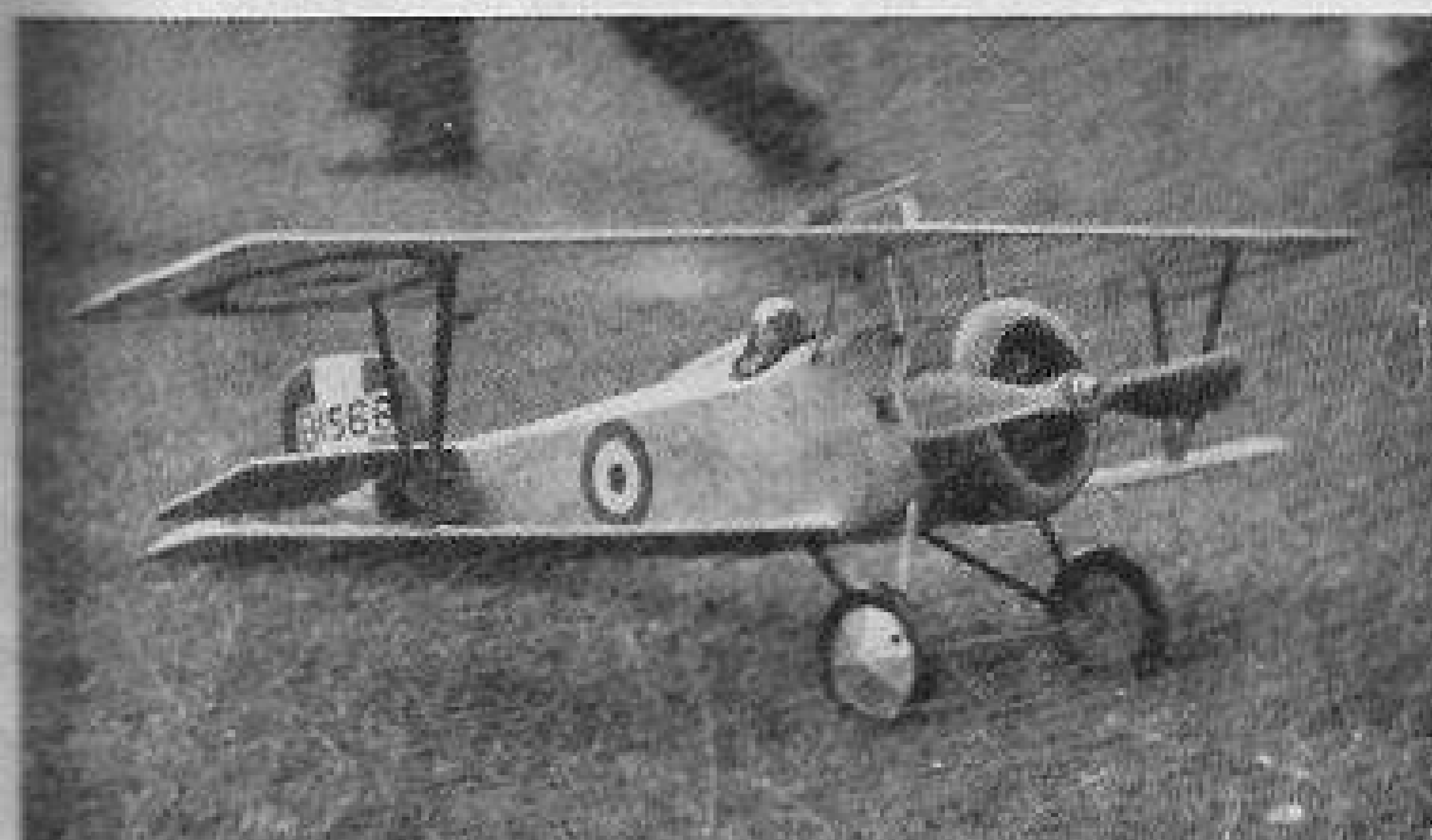
The Jetex event was won by E. Crabb (Southern Districts) who is showing himself a consistent winner in this class. **B. HEALY** and **JOHN FRENCH** filled second and third places respectively.

That happy type (**ARTHUR (COOP) COOPER**) carried off the first place in the A1-A2 power ratio. He flew a neat original Mill 1.3 powered job.

BRIAN BEASHELL was second flying a shoulder-wing type of model which seems to be well up to the performance of the usual pylon job.

TOP.—Arthur "Munk" Wilde admiring his handiwork, the DH Chipmunk with Arthur Cooper looking on. The Chipmunk took first place in the '51' National and N.S.W. flying scale championships.

Bottom left.—Tony Shennen's fine flying scale Nieuport. Right.—Sq. Ld. D. A. Neville's Mills 1.3 c.c. powered S.E. 5A attended by Ron Neville. With Ron and the S.E.5 are Alice Neville and Archie Sinclair.



GRAHAM SIMPSON (Western Suburbs) was in third position, using an E.D. Comp Special powered model.

Don Simpson came along with an Elfin 1.49 job which, to say the least, runs against all existing theories. Pencil slim fuselage, cowled motor, no pylon wing and tail in the same line. Sounds screwy, but on about half-power it went upwards very swiftly and was later recovered about 3 miles from the field.

The A-B power ratio was won by **JIM SHEEKY** who flew an Amco 3.5 powered "Zipper" which is ten years old and still performing well.

JIM JAMIESON filled second place with an Arden .199 model and **LANCE HOPKINS** used a Pepperill .19 in his San De Hogan which took third place.

BARRY BLACKMAN (Manly-Warringah) filled top place in the junior rubber followed by **ELAINE MILES** and **B. LENTHALL**.

FRED PARTRIDGE (Western Suburbs) flying his "Missel Thrush" won the flying scale power event. This is a neat-looking biplane and usually gives a pleasing scale-type flight.

Art Cooper flew his Wakefield into first place in the senior open rubber followed by Fred Partridge and John French.

As expected, the highlight of the day was the power scramble. Quite a number of competitors started, but as the rain which had been falling lightly increased in volume, some bods gave up rather than get themselves and models saturated.

Jim Sheeky's Zipper came to grief early in the piece, breaking the fuselage in two. To the Writer, change in trim due to wet conditions appeared to cause this.

Val Rochfort took the lead early but after about twenty minutes spun in and fractured the wing. However, he continued to fly till this wing just fell apart. One of Arthur Cooper's wings (broken) was then tried but this was then discarded in favour of a wing belonging to Don Simpson.

During these happenings "Coop" was indulging in much the same doings, changing wings, props, etc. and generally being a ball of energy, madly dashing hither and yon.

While these two provided what onlookers remained with plenty of amusement **DON McPHERSON** (Manly-Warringah) was unobtrusively flying his Mills .75 into first place. Rochfort and Cooper filling the next places. The only other competitor to last the distance was Brian Beashell. In the opinion of both contestants and spectators, this was the roughest, toughest scramble yet.

Prizes were presented at a social the following night, and everyone enjoyed some dancing, supper, games, and songs rendered by Fred Partridge and Elaine Miles.

MODEL FLYING CLUB OF NEW SOUTH WALES & EAST COAST SPEED CLUB

The Club has been very active flying when the weather has been kind. The members are practising hard for the N.S.W. "Jubilee" Championships which the Club is conducting, and which is an "Open" Contest to all Aeromodellers in Australia. The Contest will be held on 29th, 30th September, and 1st October, 1951. Saturday 29th, and Monday 30th will be Free Flight days, Wakefield, Radio Control, etc., Sunday 30th Control Line events. The Club were successful in being granted Schofields Aerodrome for the Free Flight events, and Erskineville Oval for Control Line. This Oval is only two sections from Central Railway and is recognised as one of the best Ovals in Sydney. A canteen will be on the job selling sandwiches, pies, hot and cold drinks. Everything possible will be done to make the Championships a Gala Contest. We can promise the Competitors keen competition, good flying fields, and a pleasant evening at the Presentation Dinner on Monday night as a Grand Finale. Anyone who builds and flies model planes can enter. The Competition is open to the boys who are not members of any club or association.

Entry forms will be sent anywhere. Enquiries to Box 2278, G.P.O. Sydney. Telephone enquiries FB3423.

On 9th May, a team went up to Newcastle from the Club, to assist our local branch there and gave a display of Control Line flying at the "Jubilee Celebrations." We had a most successful day and really gave flying a boost there. The lads who went up were—Dick Fouracre, J. Sheeky, N. Payne, J. Morgan, Bill Marden, Harold Stevenson, Max Cummings, J. Goddard, D. McPhee, Ruth Duffy, Mr. and Mrs. Scott, Mrs. Marden and Mrs. Stevenson.

The Newcastle Branch is growing steadily thanks to the enthusiasm of the members and their energetic organiser Mr. T. O'Brien. He has done a fine job and is receiving wonderful co-operation from the business people.

The Sydney Club is also going ahead and is getting new members every week. It is bad luck the balsa position is so bad at present as the boys would be pranging a lot more models to perfect their control flight pattern. They are all hoping that they can keep a few of the Trophies in the Club. Our flying days at Centennial Park on the 1st Sunday in every month, are drawing bigger and bigger crowds, which augurs well for the sport.

MODEL FLYING CLUB OF NEW SOUTH WALES AND EAST COAST SPEED CLUB ——— N.S.W. "JUBILEE" CHAMPIONSHIPS.
SEPTEMBER 29th, 30th, and 1st OCTOBER, 1951. OPEN TO ALL AEROMODELLERS IN AUSTRALIA.

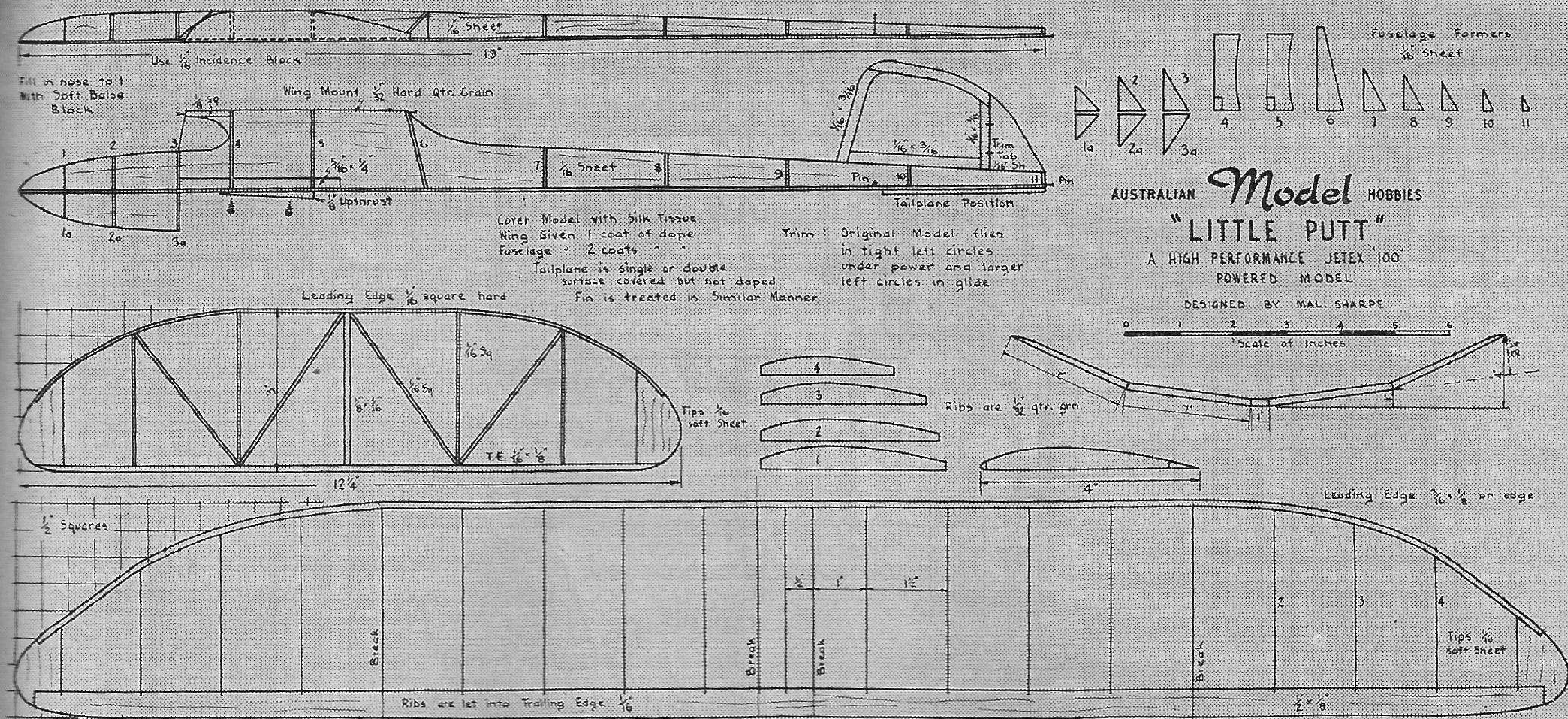
SCHOFIELDS AERODROME — SATURDAY, 29th SEPTEMBER, MONDAY, 1st OCTOBER

- | | | |
|--------------------------------|------------------------------|----------------------------|
| 1. H/L Glider | 6. Flying Scale Rubber. | 11. Free Flight Gas B. |
| 2. Towline Glider. F.A.I. | 7. Unorthodox. | 12. Free Flight Gas C & D. |
| 3. Towline Glider. Nordic A.2. | 8. Jetex Duration. | 13. Free Flight Gas. |
| 4. Open Rubber. | 9. Free Flight Gas A1 & A11. | (1 hour's scramble). |
| 5. Wakefield. | 10. Free Flight Gas A. | 14. Flying Scale Gas. |
| | | 15. Radio Control. |

ERSKINEVILLE OVAL — SUNDAY, 30th SEPTEMBER.

- | | | |
|--------------------------------------|---------------------------------|---|
| 16. Control Line Speed. Class 1/2 A. | 21. Control Line Speed. Jet. | 27. Combat. C & D. |
| 17. Control Line Speed. Class A. | 22. Control Line Flying Scale. | 28. Navy Carrier Deck. |
| 18. Control Line Speed. Class B. | 23. Control Line Stunt. Senior. | (Scale and Team Speed Models) |
| 18. Control Line Speed. Class C. | 24. Control Line Stunt. Junior. | 29. Most Improved Novice. |
| 20. Control Line Speed. Class D. | 25. Team Racing. B Class. | (M.F.C. Members Only). |
| | 26. Combat. A & B. | 30. Ladies' Event. Highest Point Score. |

CLOSING DATE OF ENTRIES — 8th SEPTEMBER, 1951. ENTRY FEE: 2/6 JUNIOR; 5/- SENIOR. DOUBLE FEE LATE ENTRY.



JETEX 100

"Little Putt"

BY MEL SHARPE

Construction.—All necessary measurements are shown on the plan, and also a scale which should enable you to quickly draw up a full size plan.

Fuselage.—Carefully trace out the top view of fuselage onto 1/16th sheet and cut out. Next cut out the side view. This is in two parts the larger of which is of course cemented along the centre line of the top view, and the smaller nose piece below. Cement the motor mount reinforcing 5/16th x 1/4 inch strip in position and then

This model won the S.A. State Championships and can be flown as a towline glider if desired. If you have not tried jet power try "Little Putt."

The increased interest in Jetex powered models has been noticeable over the past few months, and whereas not long ago Jetex was not looked upon favourably by experienced modellers, they are now realizing that this type of power unit, when employed in suitably designed models, is capable of a most interesting form of flight. The "Little Phutt" was designed by a well-known South Australian modeller, Malcolm Sharpe, and incorporates overseas trends.

It was with this model that Malcolm won the 1951 Jubilee State Championships for Jetex models.

Construction is straightforward and care should be taken to choose exactly the right type of wood so as to get the maximum structural strength with the minimum weight, which is vital, and it must be kept low.

For the beginner who requires an inexpensive and yet a good performing model, the "Little Phutt" may be used as a tow line glider in which case of course, the Jetex motor is not necessary and the cost of materials for the glider version is but a couple of shillings.

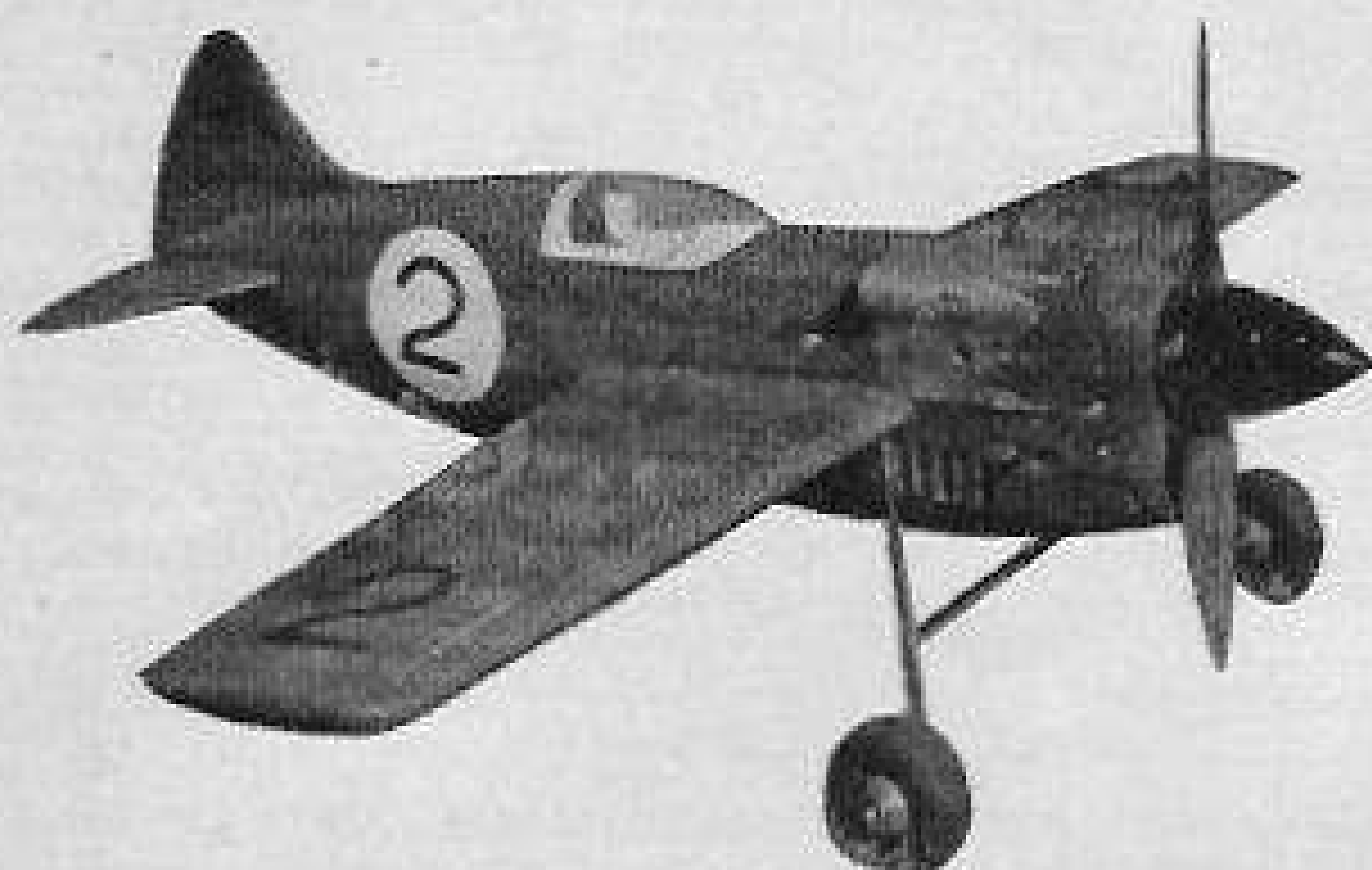
Materials required: One sheet 1/16th x 3 x 24 of medium straight grain balsa * one strip 3/16th x 1/8th medium hard * strip 1/8th x 1/2 medium hard * 1 sheet 1/32 x 3 x 12 hard 1/4 grain * 1 pkt. pins * sheet fine sand paper * tube cement * Jap, rag or silk tissues * small bottle of dope (very weak) * strip 1/4 x 5/16th x 6" * one small block 1' x 1' x 1'.

cement all gussets - 1 - 2 - 3 - etc. in place so as to build up a triangular cross section fuselage at rear, and diamond shape at nose. Cut out the wing mount platform from hard 1/32", 1/4 grain balsa, sandpaper and cement in place on top of bulkheads (gussets) - 4 - 5 - 6.

Note.—The 1/8th inch square strip stiffener cemented under the front of the wing mount platform. A small piece of celluloid is cemented around the front of the wing platform to form a cabin. Fill in with soft block balsa, the nose from no. 1 gusset forward. Check that all parts are thoroughly cemented and then sandpaper entire frame work. When satisfied, carefully cover the fuselage with tissue and give two coats of medium dope.

Tail plane.—This is necessarily a very light framework and care must be taken to see that all struts and cross braces are fitted accurately and not forced into position. Allow the tail to remain as long as possible, pinned down after glueing together. The glue must be absolutely dry before lifting tail plane from the building board. Cover with the lightest tissue available but **do not dope.**

Wing.—Carefully cut out all the ribs and sandpaper smooth. Accurately mark off the rib position on the trailing edge, and cut notches to allow rear of ribs to enter 1/16th inch. A cut with a hacksaw blade is an easy way of doing this, when done pin the trailing edge in place.



TOP.—South Australian Class B Team Speed Champ. Built and flown by Peter Arnold this model has been most consistent in recent contests. Powered by inverted Frog 500.

Little Putt (Cont.)

Carry on with construction by cementing all ribs in position, cut the tips from a scrap of 1/16th balsa, cement in place, allow to dry, then lift wing from building board; sandpaper the leading edge round, and with a sheet of sandpaper mounted on a length of hard $\frac{1}{4}$ in. balsa and paper down the trailing edge to a sharp taper. Trim the tips. Dihedral must be incorporated into the wing. First the tip dihedral. Do this by pinning down the wing on the building board, then cut a very narrow groove into the trailing edge so that the tip can be tilted up $2\frac{1}{2}$ inches. Cement the join in Leading and Trailing edges and allow to dry. Do the same thing either side of the centre section and tilt up the wings so that the tip dihedral joint is one inch above the horizontal. Allow cement to dry and then trim the wing structure with fine sandpaper. Cover the wing in separate sections and give the tissue one coat of light dope with a few drops of castor oil added.

Assembly.—If to be flown with the Jetex motor, cement a piece of hard $\frac{1}{4}$ th balsa sheet (motor mount) which has been sandpapered to form a wedge shape in place and mount the Jetex clip on this. Check with plan the position of the various pins used to hold the wing and tail plane rubber bands and fix in position, securing each with cement. Lash the wings and tail plane into position with light rubber bands. Mount the Jetex motor onto its clip and check the balance point of the model by suspending it on two fingers, one beneath the wing on each side of the fuselage. This balance point should be half-way between the leading and trailing edge of the wing; if necessary add weight to the nose.

Test glide the model over long grass, adding more weight to nose or tail until a slow straight glide is obtained. Then apply slight left rudder so that model glides in about 28 ft. diameter circles. N.B. These glide tests are carried out without a charge in the Jetex unit.

Should any warps tend to turn your model to the right when you first glide, test it, leave that turn in and fly to the right, as with the Jetex there is no torque to worry about.

Charge your Jetex unit and clip it to model and light up fuse, launch model only when full power is being generated by the unit. If your Jetex is mounted without side thrust, model will turn slightly to the left (Right if model had natural right turn as mentioned above) and at end of power run, will glide in a larger circle in same direction as when under power.

For that extra duration use fuel charges that are fresh, and trim model slowly until a very slight stall is noticeable in the glide.

Sth.Aus. Associated Aeromodellers

Hon. Sec. Boyd Felstead
5 Shoreham Ave., Brighton, S.A.

1951 has so far been the worst year since the war for model flying in S.A. The weather has been the main cause, for throughout the whole year every contest scheduled has been rained out, blown out, or flown in very poor conditions. To worsen the position we have had considerable flying field trouble, and although we have been able to continue to fly control line on Colley Reserve Glenelg, free flight areas are becoming more and more distant from the city.

PETER ARNOLD won the only really successful contest held this year so far, that was the State Jubilee "B" Team Speed Championship. This event was flown off in heavy rain, but in spite of this, the event was the most outstanding team race yet seen here. Eight models flew in the final, and four finished within a lap or so of one another.

TEAM RACING is probably the most successful type of model being flown here at present, and some good performances are being achieved. Using a blended nitro-alcohol-benzine mixture normal lappage on standard tank is around the 50 mark using standard Frog 500's. HAROLD TOOPE flew over 80 laps with this combination, while IAN MACDONALD consistently records over 60 laps using a Fox 29.

KEVIN GREEN is probably the most unlucky T/S pilot in South Australia. Race after race he has been well to the fore, when "disaster" deprived him of first place. The frantic pit work seen going on to keep Kev's model in the air is an education to all. Essential parts of a T/S kit appears to be a goodly sized roll of sellotape.

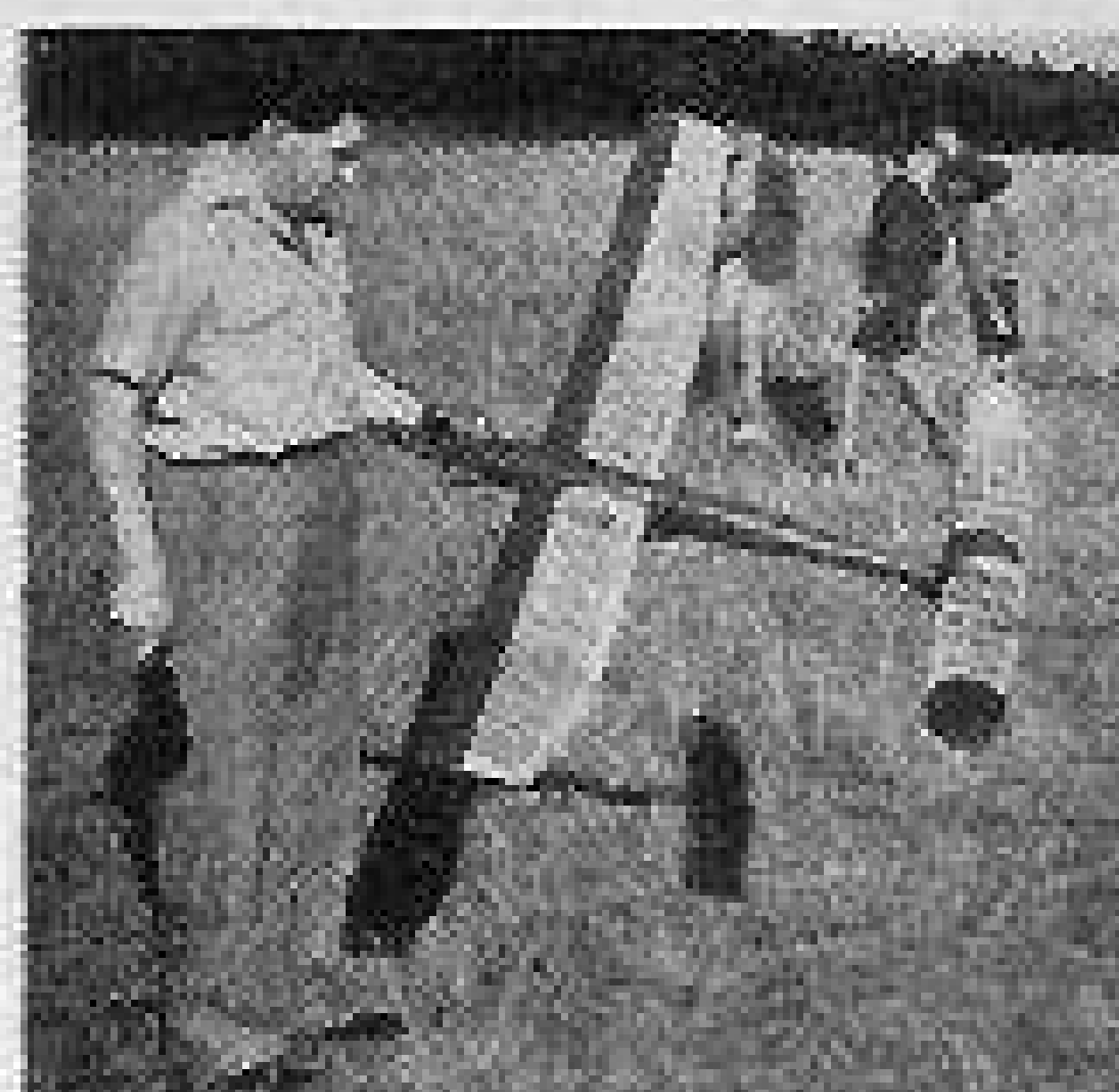
JACK HILL has also been battling it out in the team speed circles, month after month. Jack now has seven T/S models ready to go.

KEV COLWILL made the feature event, at the last T/S meeting and provided plenty of excitement with no control on his model amongst four others, but almost unbelievably no models crashed, and the race continued.

FREE FLIGHT has slipped badly. STUNT is almost non-existent. SCALE freeflight, and control line is increasing in popularity. RUBBER has few enthusiasts.

Bottom.—Ivan Stacy with the sailplane built by he and Ron Mill, which gained second place in the S.A. Championships.





GONE TO EARTH!

PROVIDING YOUR
MODEL GETS
ABOVE IT.

HINTS ON BUILDING, TESTING AND FLYING

PART I

Providing it got above it, to go back to it? "What makes a good model?" or should I say "What is a good model?"

The answer should be, the model which gives its owner good service, and is capable of a creditable performance in the air. Certainly not the type of model one sees all too often on the flying field, littering it!

This article is an attempt to point out to the "average flyer" — which means most of us—of few of the points to watch in the construction, and test flying of a free flight power model.

Australian rules call for quite a sensible type of model, and encourage the modeller to build a "larger than usual" plane for a given motor size. The result should be a slower flying, more easily adjusted model than is generally flown overseas, although the trend in U.S.A. is now certainly toward bigger models, and away from the screaming spin dizzy "pylons" so popular since "Zipper" days in Britain and U.S.A. (Note.—"Zipper" the first accepted pylon type model built in large numbers throughout

the world. Designed by the then ex-indoor modeller, Carl Goldberg, its purpose was to handle the absolute maximum power with minimum wing area, and so take utmost advantage of the rules in force at that time. There was no power loading, only a wing loading rule of 8 ounces per square foot and a twenty second motor run limit. Today we fly a larger model than the "Zipper" with a 2.5 c.c. diesel whereas a 10 c.c. motor was the "Zipper" power plant).

The choice of your model is, of course, the first step. Many good plans are available in various magazines and model shops, but if you have a 1.5 c.c. motor then get a plan which recommends a 2.5 c.c. and so on. The following wing areas are suggested for various motors which are popular in Australia. Allbon Dart, Mills 75 250 sq. in., E.D. Bee, Frog 100, 160 and 180, Mills 1.3, 325 sq. in., Elfin 1.49, Frog 150, 400 sq. in., E.D. Mk. II 425 sq. in., Sabre 250, Elfin 249, E.D. 246 Racing 525 sq. in., E.D. 346, D.C. 350, AMCO 3.5, 650 sq. in., Frog 500, 800 sq. in. All of these areas can be increased considerably without the models becoming sluggish, and are suitable for contest flying.

Considered "modern" trimming technique is a rearward placed centre of gravity, and so the tailplane areas should be at least 40% of the wing area, and the cord of the tailplane as narrow as practical.

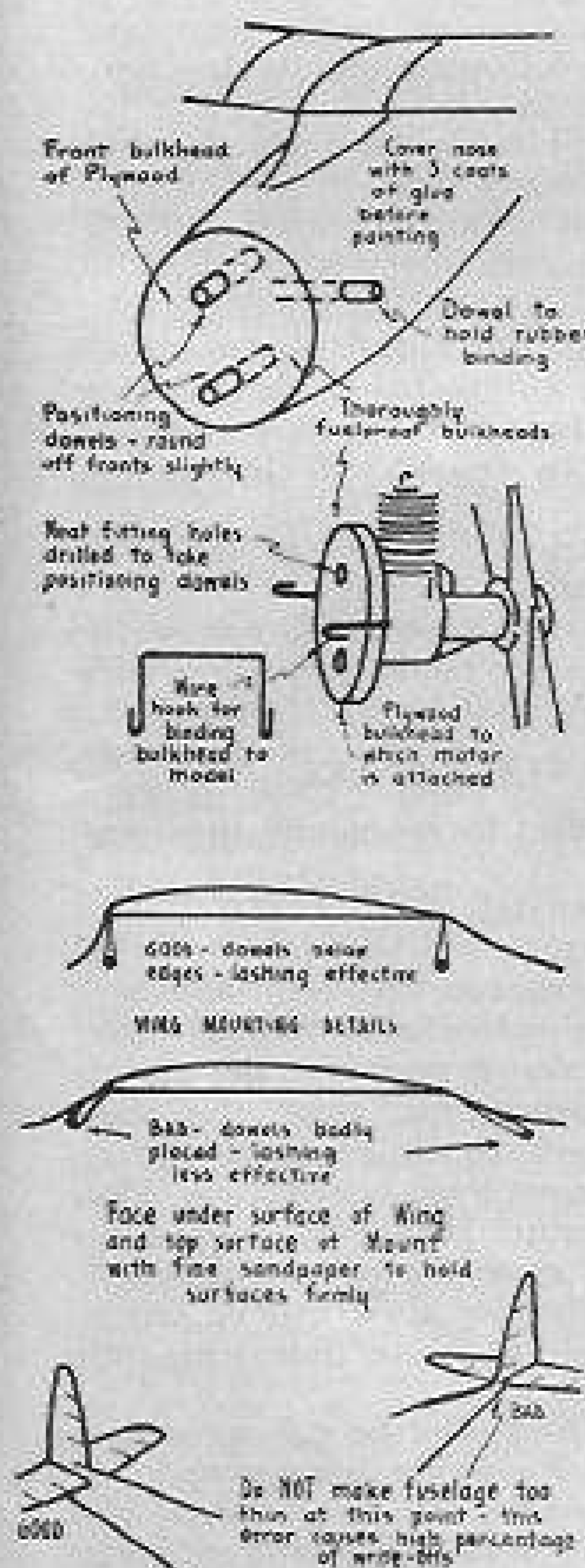
Choose the correct type of wood for each job, and try to get a really experienced aeromodeller to explain the characteristics of the various cuts of wood, and their uses.

The fuselage is usually the first component constructed, and it is in this many faults can lie. Make sure that the surfaces on which the wing and tailplane are to be mounted are sufficiently wide to hold the flying surfaces firmly with the minimum rubber binding. Fine sandpaper cemented to the wing and tailplane mounting platforms helps to stop surfaces moving with vibration, and yet allows movement should wing or tailplane strike something. Too often we see parts lashed onto the fuselage with yards of rubber, in an attempt to keep them firmly in place, with the result the rubber is more likely to wreck the model by pulling through leading or trailing edges, squashing fuselage, etc., than an actual crash.

Motor mounts too, can stand quite an amount of criticism, particularly the detachable radial mounting. Radial mounting is an ideal way to fit a motor providing it is done properly—FIRMLY. If the mounting is to be removable then the area of the front bulkhead, against which the motor bulkhead is to fit, must be kept reasonably large, and have liberally sized positioning dowels solidly fixed into the fuselage. These dowels which fit into the bulkhead onto which the motor is actually attached should only protrude a little further than the actual thickness of this bulkhead, and should be rounded slightly on the ends, so that on impact the motor bulkhead can hop off without wrenching the positioning dowels from the fuselage. Of course means must be arranged to firmly lash the removable bulkhead to the front of the fuselage. The hooks or dowels used for this purpose must be very firmly fitted, and arranged so that the pressure of the rubber binding is taken centrally on the front bulkheads. (See sketches).

Always fit dowels onto the fuselage to take the wing and tailplane mounting rubber. Don't wrap rubber all over the fuselage as is seen on some models. Don't get these dowels too close to the leading and trailing edges, but be sure to keep them a little distance BELOW these edges, otherwise the rubber lashing is at an angle such as to make it difficult to hold surfaces firmly without using excessive rubber. Reinforce trailing edges where rubber passes over with pieces of shim brass folded, then slipped over edge and cemented.

(To be continued)



TOP.—High performance Amco powered model which was smashed through lack of thorough flight testing. "DON'T LET THIS HAPPEN TO YOU." Take time and test your model carefully and thoroughly.



WATCH THESE POINTS IN YOUR TEAM SPEEDSTERS!

Control System. Try and eliminate wear as much as possible for in Team Racing the control plate, and control horn do a lot of work. Many good team racers have come to grief after a few month's racing because of control system failures. To reduce wear bush both control plate, and horn with brass or copper tubing in the following manner. Cut four pieces of brass or copper tubing $\frac{1}{4}$ " long and of suitable inside diameter to fit snugly on the control rod. Drill out the control plate and horn to fit the pieces of tubing. Fit tubing in each of these holes, and solder a small washer to the tubing on each side of the control plate and horn. Put a drop of oil on all bearing surfaces before enclosing them in fuselage.

Cowling. A metal cowl appears to give far better results than one carved from block balsa.

Undercarriage. Steel wire is preferred to dural sheet landing gear, as is so popular in America. If the plans for your Team racer show a sheet metal gear disregard it, and fit a wire one. A combination of sheet metal and wire is quite good.

Fuselage. Fuelproofing, so that fuel does not get back into the fuselage insides is most essential. Once fuel gets onto unprotected woodwork the strength is reduced considerably. Always keep the control plate as low as possible in the fuselage so as the centre of gravity is well above it. This gives better line stability, because of the centrifugal action forcing the centre of gravity out-

wards, and if the C of G is above the control plate then the outside wing should tend to be forced down.

Tailplane. Many failures occur when the model cartwheels on a bad landing and the tailplane hits. Nothing much can be done about this other than to get as much strength as possible into the tailplane, and the rear of the fuselage. Do not get the rear too thin.

Spinners. Continuously check spinners to see that they are correctly aligned for otherwise a broken shaft is like to be the result should a spinner not be running true. Unbalanced propellers will also eventually cause similar damage, particularly with front rotary valve motors.

WHY NOT TIME TRIALS FOR SPEED ELIMINATIONS?

At the S.A. state championships this year an idea was tried, which seems to be the most satisfactory way yet seen of conducting the eliminations for Team Speed races. Instead of actually racing the planes against one another over the 7 and 21 lap heats, the models were individually timed over these distances. Flown under full rules, that is one minute for starting, mechanics out, then the model released and timing started. Points were awarded on the same ratio as M.A.A. rules for each distance, and the fastest eight machines went into the final.

This arrangement has the following points to commend it:—

1. If the flying ability of the pilot is unknown the time trials can be used as a proving runs.
2. Time can be saved. (No possible re-runs will be necessary, as when models earn the same number of points in heat "races").
3. The fastest models get into the final (some of which may otherwise have been eliminated in heats flying against one another (i.e. four fast planes in the one heat, and four slow ones in another) if eliminations were flown as races).
4. Similar time trials are used as eliminations for many other types of racing sports.

Note.—Several models can of course be flown in the one circle to complete their time trials, providing sufficient timekeepers are available to time each model.

TIME TRIAL SYSTEM RULES

1. Team is given three minutes to get model into position ready to fly.
2. Timers are allocated to model.
3. Timekeeper acts as starter.
4. Mechanics are given one minute to start motor.
5. After one minute, "starting-mechanic" must leave circle whether or not motor is running, the release signal given to "holding-mechanic," and the stop-watches start timing, which continues until the required laps have been completed, or a time limit is reached. Starting mechanics can of course re-enter the circle to start motor once timing commences.
6. Once one model is in the air then others can of course be added, so as not to waste time with only one model flying at a time.
7. Should the capabilities of the pilot be unknown then he should fly alone until his flying is approved.
8. A time limit should be set by which the seven and twenty-one lap time trial must be completed (suggested 3 minutes for 7 lap, and 6 minutes for 21 lap).
9. Points are awarded on the same ratio as those at present given for the 7 and 21 lap races, but must carry right through the competitors—not only the first four places. The points gained in each time trial are totalled for each competitor and the eight highest go into the final race of 10 miles.

Queensland Notes

From Arthur Gorrie

Sec. N.M.A.A.
604 Stanley St., Brisbane

COL. "SADSACK" SOMERS, a member of the Newtown M.A.A. is one of the most versatile modellers in Queensland. In addition to his ability to build models, Col is quite a colourful personality, and is proud of his resemblance to the comic strip character "Sadsack." Arthur Gorrie loaned Col an "MS 29" to power a "Lindy" he built up for the State Jubilee Championships, and the combination proved a winner.

DES SLATTERY flew the MS/Lindy to set a new Queensland record for class "B" speed. Flying a "Squaw," Des, also won the intermediate Stunt Event. **BOB TURNER** had his Gossamer high in a gum tree for two weeks, but then some club members cut down the tree, after three hours vicious axe work.

MORE RUDDERBUGS have come from Noel Phillips building board for the use of other Radio Control enthusiasts, but even so Noel finds time to scale up and build a double size Aeromodeller "Sporty," which is powered with a Frog 500.

FRANK PARRISH has placed well in State eliminations held so far, and should be near the top in the final placings.

PETE WEAVER, who was mainly responsible for the popularity of the "Squaw" type stunter, is busy on a new job, but unfortunately did not make the Champs.

AN AMCO powered S.E.5 won the flying scale event for Chas. Fleming, who journeyed down from Maryborough.

STARDUSTER—Geoff. Smith—piloted Freddy Burgess' class "B" Team Speedster to first place in the 10 mile race. Fred acted as pitman, and also placed third in the senior stunt.

SECOND in senior stunt was Jack Richter.

BOB PALMER, designer of the well-known American "Veco" kits is now a member of the N.M.A.A. Pete Weaver is the link between Bob and the locals.

MRS. BETTY PHILLIPS and **MARJORIE GORRIE**, two of the N.M.A.A. lady members are real enthusiasts, and set an example to club members.

(Continued on page 29).



Top to bottom.—Mrs. Marjorie Gorrie with her Mills 75 Gossamer, also flies a stunt Juggler powered with a Frog 500.

Bill Weekes, again appears in our pages, this time with a Frog 500 Stuntwagon.

Terry Jack, with the remains of his Super Cyke powered Glo Devil, which came adrift from the lines, and free-flighted over the house-tops for several hundred yards. Tech, Tch, Tchl!

"Well it should go!" says Pete Weaver. Motors can be cussed things but, the many Squaw Models built since Pete's first have been worthy mounts for any motor.

★ ★ ★

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Overseas News, British U.S.A.

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Controline Stunters What size

Controline Speed " "

Team Speed " "

Free Flight Power " "

Wakefield Type

Rubber Power

Sailplane

Beginners Models What type

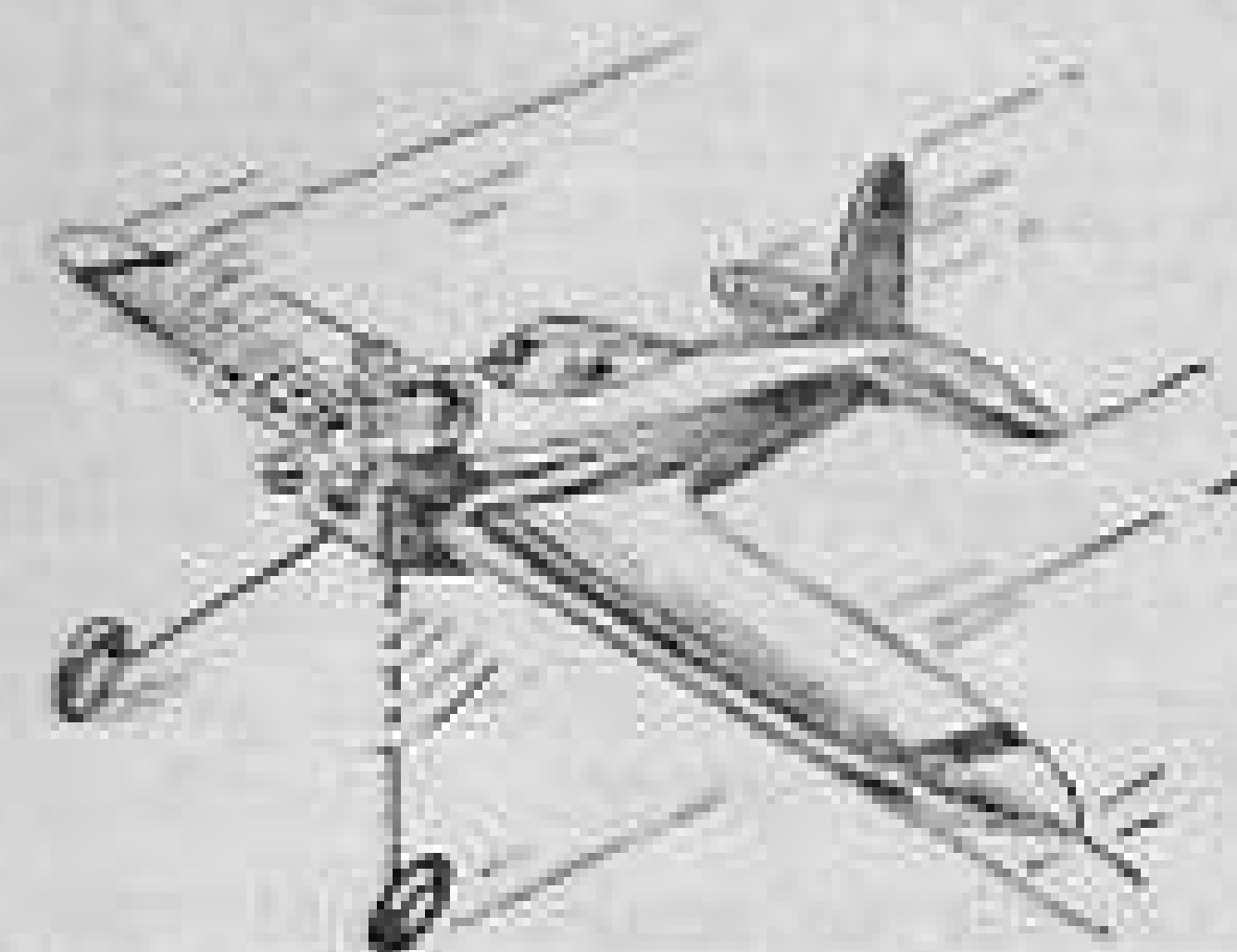
Club News

Model Cars

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New Zealand News (cont.)

next Nats. at Masterton and if the number of radio present being in Auckland. Many of the initial aims of the new post-war Association are already in operation, one of which is an excellent insurance scheme that is receiving national support. Both "third-party" and "loss models being built is any indication it shows promise of being one of the highlights of the meeting.

As with all major events the amount of travelling space required for models is noticeably less on the return journey. The problem of where to put the model barely existed on the return from Christchurch but there was one notable exception. The Nationals has become a time for the exchange of ideas and very often of items either swapped or bought outright. As the result of such a "negotiated" purchase it was necessary to make provision for the transporting to Auckland of one only Rudder-bug-complete—ex Alan Rowe.

At the first opportunity the acquired "Bug" was put to the test, purely for "research" purposes of course. The photo below was taken during a lull in the proceedings. It was found that, even with the best of equipment, radio control in the Wright manner was not as simple as it appeared and success could only be achieved as a result of careful maintenance. It is a fascinating pastime but the drain on the pocket is only exceeded by the drain on the batteries. Oh! for some decent dry-cells. Something has to be blamed and the batteries are as good a choice as any.

Team racing is becoming more popular here now and is to be included in the Masterton Nationals programme. In future issues of *MODEL HOBBIES* I will endeavour to present some notes on team racing together with those of other activities in New Zealand modelling.

Len Perry

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Queensland News (cont.)

Joe Sims, late of Dalby, has modified his "Squaw" as recommended by the designer, and built up tailplane is now fitted. Joe has won two State Champs with the "Squaw."

MURRAY WEYMOUTH—Dalby—also flies a "Squaw", which is powered with a Frog 500.

RESULTS

Chuck glider.—N. Phillips (Brisbane), 84.2 sec. 1; K. Castle (Brisbane) 2; C. Cowan (Lismore) 3.

Wakefield rubber.—A. Thomas (Brisbane) 6 min. 33.8 sec. 1; T. Phillipson (Rockampton) 2; J. Grayson (Ips.) 3.

Open power, 2.51 c.c. and over.—K. Molloy (Ips.) 3.89, 1; N. Phillips (Brisbane) 2; S. Holmes (Brisbane) 3.

Open jet.—A. Thomas (Brisbane) 2 min. 12.3 sec., 1; N. Phillips (Brisbane) 2.

Open sail plane, up to 525 sq. ft.—F. Gander (Lismore) 5 min. 0.1 sec., 1; R. Turner (Brisbane) 2; W. Barlow (Brisbane) 3.

Open rubber.—G. Foster (Brisbane) 4 min. 17.4 sec., 1; C. Cowan (Lismore) 2; M. Clare (Lismore) 3.

Open power, 0.1 to 1.5 c.c.—R. de Chastel (Brisbane) 4.98 points, 1; D. Beck (Brisbane) 2; Miss B. Phillips (Brisbane) 3.

Open power, 1.5 to 2.5 c.c.—P. Phillipson (Rockampton) 13.13 points 1; C. Cowan (Lismore) 2; F. Parish (Brisbane) 3.

Open sail plane.—527 sq. ft. and over.—T. Cassidy (Brisbane) 5 min. 45.6 sec., 1; H. Butler (Brisbane) 2; R. Fowler (Brisbane) 3.

WORLD SPEED CHAMPIONSHIPS AT KNOCKE—28-30 JULY, 1951

WORLD CHAMPIONSHIPS—SPEED 2.5 c.c.

1. Hewitt (Great Britain)	131.075 km/h
2. Wright (Great Britain)	142.579 "
3. Claydon (Great Britain)	141.812 "
4. Kreulen (Holland)	139.097 "
5. Billinton (Great Britain)	131.074 "

SPEED 5 c.c.

1. Wright (Great Britain)	201.682 km/h
2. Kreulen (Holland)	186.533 "
3. Cordier (Belgium)	182.279 "
4. Dr. Millet (France)	179.108 "
5. Labarde (France)	174.345 "

SPEED 10 c.c.

1. Labarde (France)	204.651 km/h
2. Laniet (France)	194.139 "
3. Dexobry (France)	190.609 "
4. Dr. Millet (France)	186.495 "
5. Mallait (France)	184.507 "

JET

1. Dunn (Great Britain)	214.926 km/h
2. Claydon (Great Britain)	126.760 "

AEROBATICS

1. Hewitt (Great Britain)	3200 points
2. Vallez (Belgium)	2779 "
3. Marsh (Great Britain)	2723 "
4. Janssens (Belgium)	2613 "
5. Cordier (Belgium)	1988 "

Model Aeronautical Association of Australia

1952 NATIONAL CHAMPIONSHIPS

These events will be conducted by the M.A.A. of N.S.W.

All details so far available are listed below, and any queries concerning the "National Championships" should be sent to the Secretary of the M.A.A. of N.S.W.

—JACK DUNKERTON, Hon. Sec.,
15 La Mascotte Avenue,
Concord, N.S.W.

Arrangements.

1. The Nationals will be held over the period 29th December, 1951, to 2nd January, 1952, inclusive and all events both free flight and control-line will be held at Camden Aerodrome.
2. An accommodation charge of £5 to cover the five (5) days accommodation at the drome will be made. If contestants so desire they may pay this in instalments between now and the 30th November, when entries close. It is felt that this will be one way of helping to spin out the cost for the members concerned.
3. Entry fees will be as decided at the last National Conference, i.e., 5/- Senior, 2/6 Junior, with a late fee of 10/.
4. A prize-giving dinner will be held, but at this stage, it has not been decided whether an additional charge will be made for same, but at present, we think not.
5. Entry forms with separate agenda for the Contest are available. Lists of rules covering all events will be printed separately, and will be available at a cost of 3d. per copy to cover cost of compilation and printing.
6. Accommodation will be available for ladies and children.

Events.

Note that there have been some additions to the list published in our last issue.

1. Indoor Stick.
2. Indoor Fuselage.
3. Junior Stunt Control-line (up to 18 years).

4. Senior Stunt.
5. Team Speed Class "C".
6. Australian Team Speed Championship Class "B".
7. Speed Control-line Class "A1".
8. Speed Class "A11".
9. Speed class "A".
10. Speed Class "B".
11. Speed Class "C".
12. Speed Class Jet.
13. Free Flight Class "A1".
14. Free Flight Classes "A11," "A," combined.
15. Free Flight Class "B and C" combined.
16. Radio Control.
17. Flying Scale Control-line.
18. Flying Scale F/F Power.
19. Flying Scale F/F Rubber.
20. Team Speed Classes "A1" and "A11" combined.
21. Towline Sailplane F.A.I.
22. F.A.I. Sailplane A2 Nordic.
23. Hand-launched Glider.
24. Wakefield (Anthony Horden).
25. Open Rubber.
26. Jetex Duration.
27. Interstate Team Speed (Advertiser Trophy. Competed for the highest placegetters from each State in the open class "B" event).
28. P.A.A. Type Payload.
29. 1 Hour Power Scramble.
30. Junior Rubber (weight rule 3 oz. per 100 sq. in.).
31. Senior Rubber (" " ")

New Motor Classes.—All sizes in cubic centimetres.

"A1" .000 — 1.50; "A11" 1.51 — 2.50; "A" 2.51 — 3.50;
"B" 3.51 — 5.00; "C" 5.01 — 11.5.

Rules for all speed flying will be those of the A.M.A. of U.S.A. (Same as last year). The only exceptions being that heavy stranded control-lines be acceptable on class "C" and Jet Speed.

Line Length.—"A1" 35 ft.; "A11" 42½ ft.

Rules for Team Speed also full A.M.A. rules, excepting cut-out need not be fitted, spinners are optional, and the starting time reduced to one minute. 30 c.c. of fuel must overflow the tank and fuel line.

Rules for Stunt same as last year. Full A.M.A. with same exceptions.

Hand-launched Glider now be the average of the best three of six (6) throws.

**WATCH FOR THE SPECIAL
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- ★ MORE PLANS
"A11" and "B" Team Speed-
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RESULTS 1951 BRITISH "NATIONALS"

THURSTON CUP (GLIDER)

1. Lambie, J.	Chorleywood	8:17
2. Wheeler, B.	Birmingham	7:31
3. Yeabsley, R.	Croydon	7:13
4. Twomey, R.	Cardiff	6:02
5. Nave, N.	Brighton	5:57

MODEL AIRCRAFT TROPHY (RUBBER)

1. Warring, R. H.	Zombies	6:27
2. Atkinson, R.	Ipswich	6:16
3. Knight, J. B.	Kentish Nomads	5:16
4. Gorham, J.	Ipswich	4:58
5. Marcus, N. G.	Croydon	4:49
6. Copland, R.	Northern Hts.	4:45

CONTROL LINE SPEED

2.5 c.c. "II"	Coles, A. V.	Bristol and W.	94.546 m.p.h.
	Taylor, R.	Brixton	86.26 "
3.5 c.c. "III"	Billinton, M.	Brixton	95.008 "
5 c.c. "IV"	Taylor, R.	Brixton	112.24 "
10 c.c. "VI"	Billinton, M.	Brixton	128.29 "
	Taylor, R.	Brixton	100.8 "
Jet "VII"	Hopkins, B.	Bristol Phoenix	124.42 "

SIR JOHN SHELLEY TROPHY (POWER)

1. Wyatt, P.	Ipswich	10:00
2. Bennett, A.	Whitefield	9:26
3. Knight, J. B.	Kentish Nomads	7:35
4. Buskell, P.	Surbiton	7:27
5. Butcher, N.	Croydon	6:53

S.M.A.E. RADIO CONTROL TROPHY

1. Allen, S.	Battersea	250 points
2. Hemsley, O.	Bushy Park	64 "
3. Goodman, R.	Bushy Park	50 "

GOLD TROPHY (C/L STUNT)

1. Hewitt, A.	Sth. Birmingham	330.5
2. Hewitt, B.	Sth. Birmingham	323.0
3. Russell, P.	Workshop	312.0
4. Cooke, R.	Rotherham	307.5
5. Smith, P.	Chingford	202.5
6. Coles, A. V.	Bristol and West	173.0



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ED Mark III (Series 2), Diesel, £6/13/6.
ED Mark IV 3.46 Diesel, £7/7/6.
ED Mark III 2.49 Diesel Special, at £6/3/9.
Eta 19 (3.25 c.c.) Glo, £8/14/6.
Eta 29 (5 c.c.) Glo, £10.
Elfin 1.49 Diesel, £5/13/9.
Frog 50 (.49 c.c.) Diesel, £3/17/6.
Frog 150 (1.49) Diesel, £3/17/6.
Frog 160 Glo, £3/19/-.
Frog 250 Diesel £5/10/-.
Frog 500 Petrol, £6/12/6.
Frog 500 Glo, £5/15/-.
Mills .75 Diesel, £5/16/5.
Mills 1.3 Diesel, £6/15/9.
Mills 2.4 Diesel, £8/8/10.
Yulon 49 (8.2) Glo, £9/7/3.

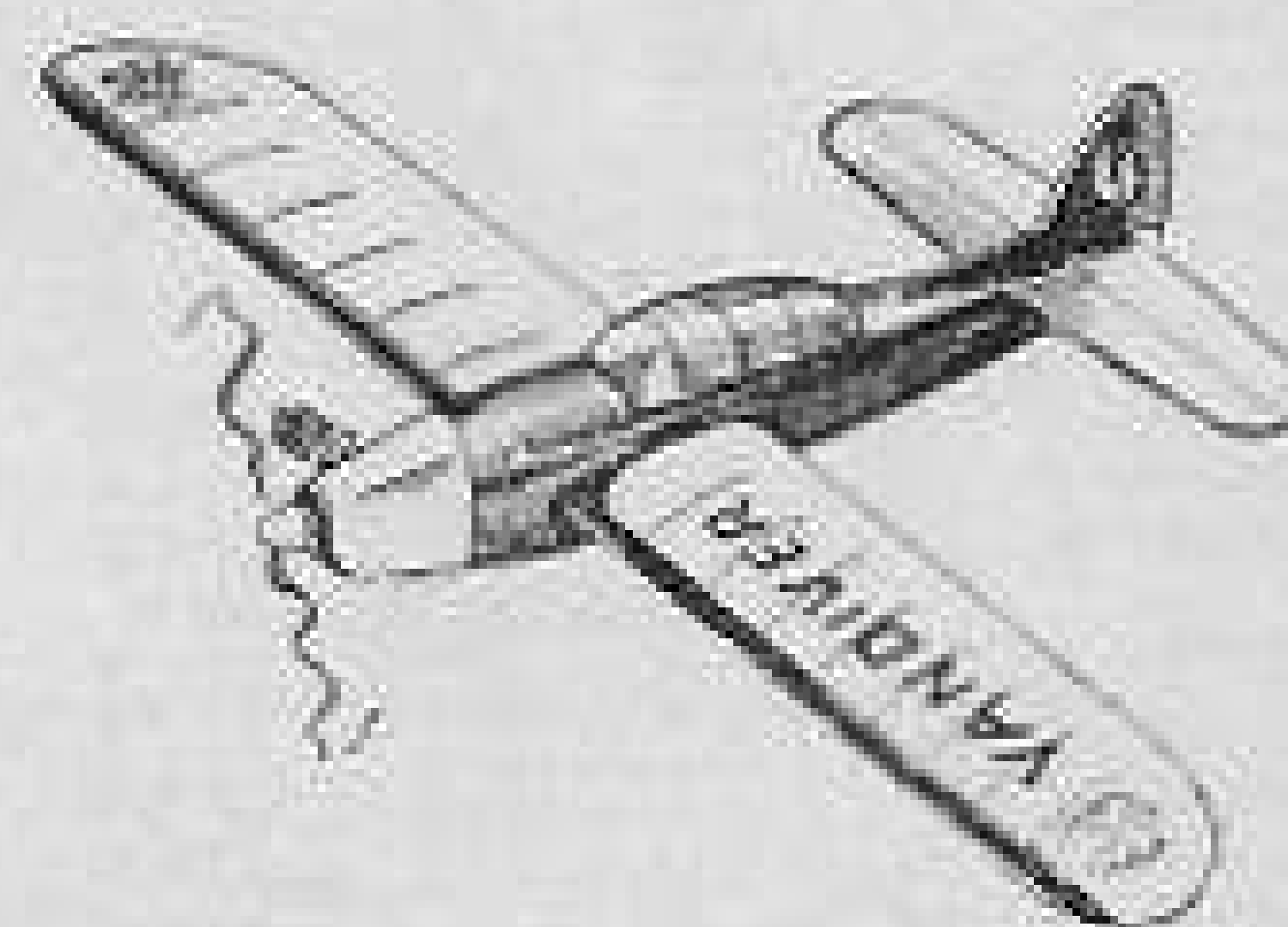
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ED Radio Queen Kit,
£7/-/-

KITS

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Mercury "Junior Monitor" C.L., 27/-.
Mercury "Junior Musketeer" C.L., 32/-.
Mercury "Maybug," 32" Rubber, 14/9.
Mercury "Monitor" C.L., 34/6.
Frog "Vandiver" C.L., 24/3.
Frog "Vanfire" C.L., 48/9.
Frog "45" F.F., 49/11.
Frog "Strato D" F.F., 28/3.

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The Wakefield (cont.)

has now apparently be declared obsolete, since the Wakefield has been brought into line with F.A.I. rules.

The first round of the 1951 Wakefield began when J. Foster (U.S.A.) got his model into the air at 7.35 p.m. in weather which was worsening. Of those countries who fielded a full team of six models, it is interesting to note the results, had the team been considered as a whole. Holland had the grand total of 3005 secs, Great Britain 2934.9 secs. and U.S.A. 2904.6 secs. at final tally of all flights.

All six of the American models recorded flights of over three minutes in the first round, as did four of the British machines, three of the Dutch, and Italian, and several others including one Australian, Lim Joon of Victoria.

Actually more than twenty of the competitors recorded flights of over three minutes in this round. Many of the models and modellers were in trouble, but forty of them managed flights over the 100 second mark. Loneragan (Aust., N.S.W.) recorded the worthwhile flights of

164.7 seconds, Jim Fullarton (Aust. Vic.) 151.1 whilst Alan King (Aust., Vic.) with 6 seconds and Bill Holmes (Aust., N.S.W.) with no flights apparently run into serious trouble. This round finished at 9 p.m., and when results were checked it was obvious that the general standard of flying was recording appreciably higher times than last year.

The second round saw bad luck for Frank Holland (U.K.) and one of the Belgian entries, in the shape of a mid-air collision. Both these competitors were allowed another flight, and the Belgian, Deschepper, then recorded the top time for the round, of just over four minutes. Ellila lost his model after a false start. His model took off, and after only about seven seconds touched down making this a delayed flight, but the model then continued on it's way and was lost, and not found until the next day.

Tubbs (U.K.) gained sufficient time to place him in the lead, and the British team were optimistic.

Weather had deteriorated considerably, and the American lads were having stability troubles with their very long fuselage, low dihedralled jobs, but those U.S. models with the return gear systems, flown by Perryman and Hofmeister moved closer to the top.

Three o'clock the following morning the final round got under way. All eyes were on the top six or seven men. Leader, Tubbs (U.K.) muffed his winding, and launch, which resulted in his poorest flight of the contest.

Sune Stark (Sweden) jumped into top place with a flight of over four minutes.

Lustrati (Italy), Deschepper (Belgium), Hofmeister (U.S.A.), Andrade (U.S.A.), Holland (U.K.), and de Jong (Holland) were all in a position where it was possible for them to top Stark's times, if they could get that little extra duration from their models.

de Vries (Holland) pulled himself well up with the best time for the round 4 min. 16.5 seconds.

The 1951 International Wakefield drew to it's close with Stark in the winning position, followed by Tubbs (U.K.) and Lustrati (Italy).

RESULTS OF 1951 INTERNATIONAL WAKEFIELD

AUSTRALIA					
Final placing.					
17. Fullarton, J.	(Royle)	151.1	185.0	117.0	453.1
18. Loneragan, A.	(Bryant)	164.7	169.0	103.0	436.7
25. Lim Joon, A.	(Santala)	186.0	64.1	146.3	396.4
50. Holmes, J.	(L. Santala)	—	46.0	—	46.0
51. King, A.	(Sandin)	6.0	—	—	6.0
BELGIUM					
8. Deschepper, P.		202.2	243.4	164.0	609.6
16. Ferber, M.		223.5	127.0	106.3	456.8
19. Lippens, C.		157.1	108.3	168.0	433.4
22. Balasse, E.		118.1	182.0	124.0	424.1
CANADA					
35. Wood, J. H.	(Helenius)	209.1	105.2	—	314.3
45. Walter, J.	(Relander)	151.4	20.0	—	171.4
49. Ford, A.	(Kauhanen)	61.3	—	—	61.3
FINLAND					
34. Huhtinen, P.		115.0	121.5	85.7	322.2
37. Johanson, A.		132.5	126.2	41.0	299.7
41. Silmunen, T.		108.0	20.8	92.0	220.8
42. Tahkapaa, M.		1.0	89.0	105.5	195.5
46. Kivikataja, A.		99.0	59.3	—	158.3
47. Ellila, A.		130.0	6.9	—	136.9
FRANCE					
14. Gilg, P.		236.0	137.6	113.5	487.1
38. Gerlaud, E.		12.5	140.9	140.6	294.0
40. Pointel, B.		218.0	28.8	—	246.9
GREAT BRITAIN					
2. TUBBS, H.		252.7	236.9	186.6	676.2
9. Holland, F.		221.2	190.0	187.4	598.6
11. Dowsett, I.		215.9	184.2	166.7	566.8
20. Woodhouse, R.		224.0	184.0	23.4	431.4
32. Rockell, F. W.		115.6	136.5	101.2	353.3
36. Boxall, F. H.		149.2	143.4	16.0	308.6
HOLLAND					
4. de Jong, J.		258.1	206.0	189.8	653.9
6. de Vries, C. R.		194.8	170.3	256.5	621.6
13. Dykstra, G.		119.5	215.1	170.8	505.4
21. Dijkstra, A.		197.4	153.8	79.4	430.6
24. Thomas, J. F.	(Seton)	122.0	150.0	126.0	398.0
26. de Kat, H. L. F.		158.0	236.0	1.5	395.5
ITALY					
3. LUSTRATI, S.		226.0	229.1	209.1	664.2
10. Cassola, F.		172.0	236.0	190.2	598.2
23. Leardi, A.		192.5	228.3	1.3	422.1
27. Pelegi, G.		177.0	211.7	—	388.7
28. Sadorin, E.		186.3	195.0	—	381.3
44. Falala, D.	(Kannenwurf)	—	183.0	—	183.0
SOUTH AFRICA					
43. Morris, C.	(Viherialahto)	37.3	61.0	86.0	184.3
48. van Rensburg	(Sarrinen)	70.0	46.2	—	116.2
SWEDEN					
1. STARK, S.		226.2	232.5	246.5	705.2
30. Eliasson, H.		122.8	129.5	110.2	362.5
31. Borjesson, B.		5.7	217.5	133.5	356.7
33. Blomgren, A.		21.0	153.0	164.0	338.0
UNITED STATES					
5. Hofmeister, A.		201.0	223.6	204.8	629.4
7. Andrade, M.		226.0	180.5	208.3	614.8
12. Elgin, J.		212.1	192.0	156.0	560.1
15. Perryman, G.		208.5	170.0	85.2	463.7
29. Foster, J.		211.7	152.6	—	364.3
39. Kneeland, D.		190.3	11.4	70.6	272.3

WAKEFIELD COMMENT

Writing in the current issue of the British magazine "Aeromodeller," Ted Evans British Wakefield Team manager makes these interesting comments:—

"Regarding the American models, I was not under the impression that they were based on the Everitt design, which was not more than average in length. They were however a copied design in all but one respect, and this omission was the cause of their failure.

The original I am told had a high pylon, which was left out on the models seen in Finland. This is of no importance in itself—however, this model was flown with the C/G about one inch behind the trailing edge, which in turn would need an increased positive setting on the stabiliser to produce the normal glide. This set-up means that the angular difference between the wing and stab. is small.

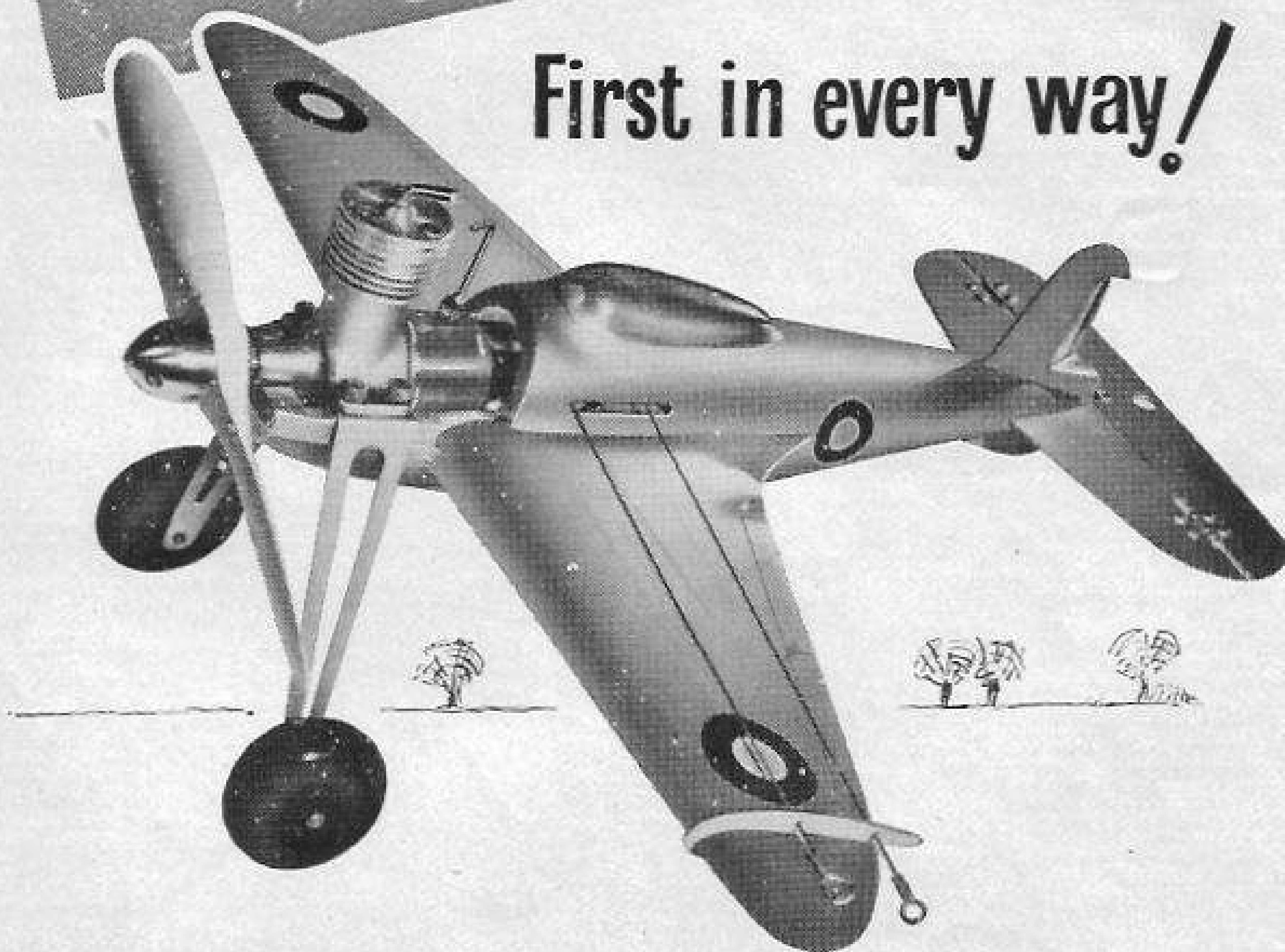
This combination does not always show faults unless extremely high power is used, when the stab. starts to produce lift a little faster than the wing, with consequent reduction in climb. (Remember those first circuits—flat and fast?) Correction can come through another force, i.e., centre of resistance *above* thrust line, which, if of sufficient magnitude, would produce the necessary nose-up couple—which *should* have been the pylon.

If you remember, the Americans fitted more powerful motors; Ellila's model would not take off, but, having stood and released some power, it took off quite properly and was lost!"

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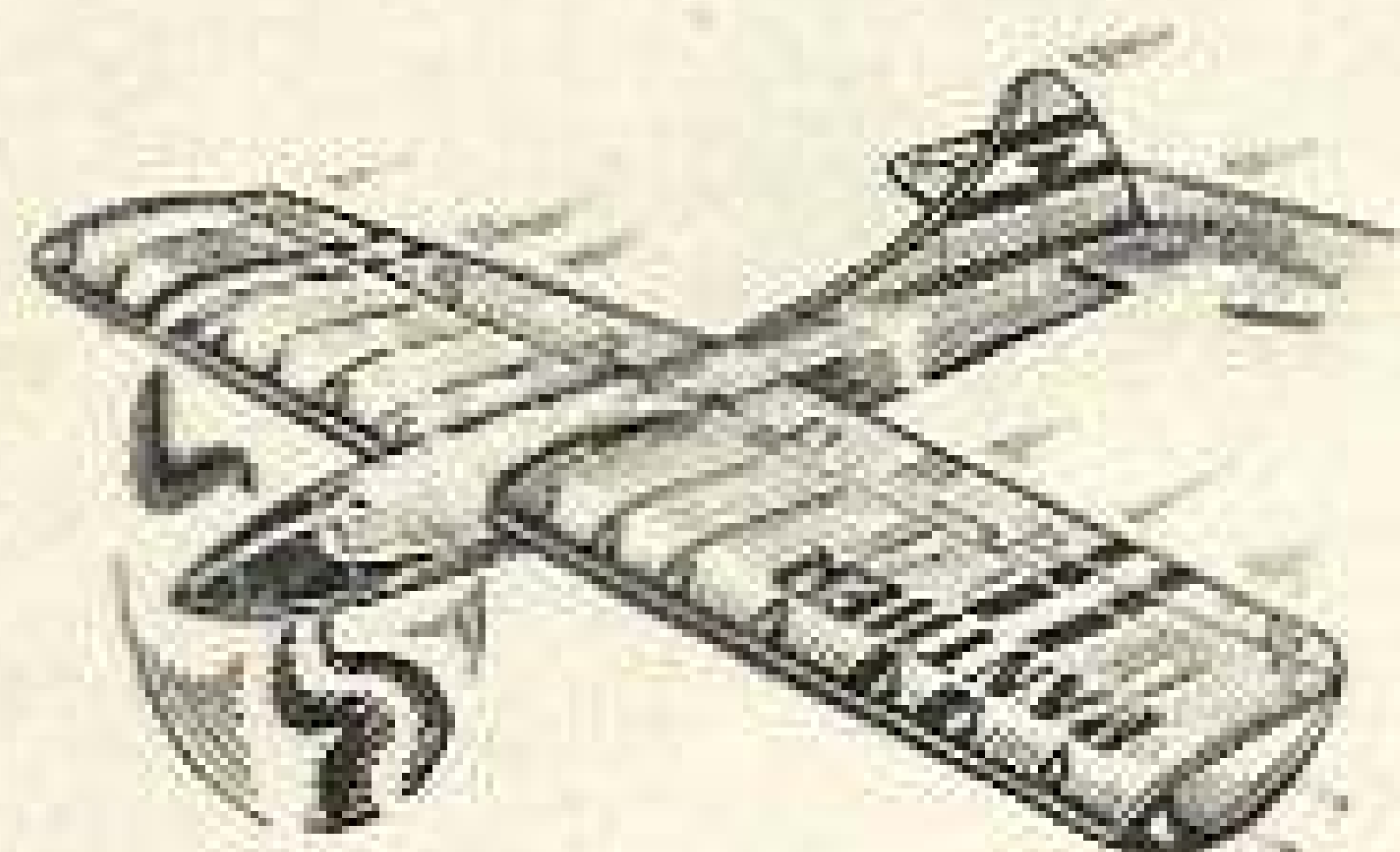
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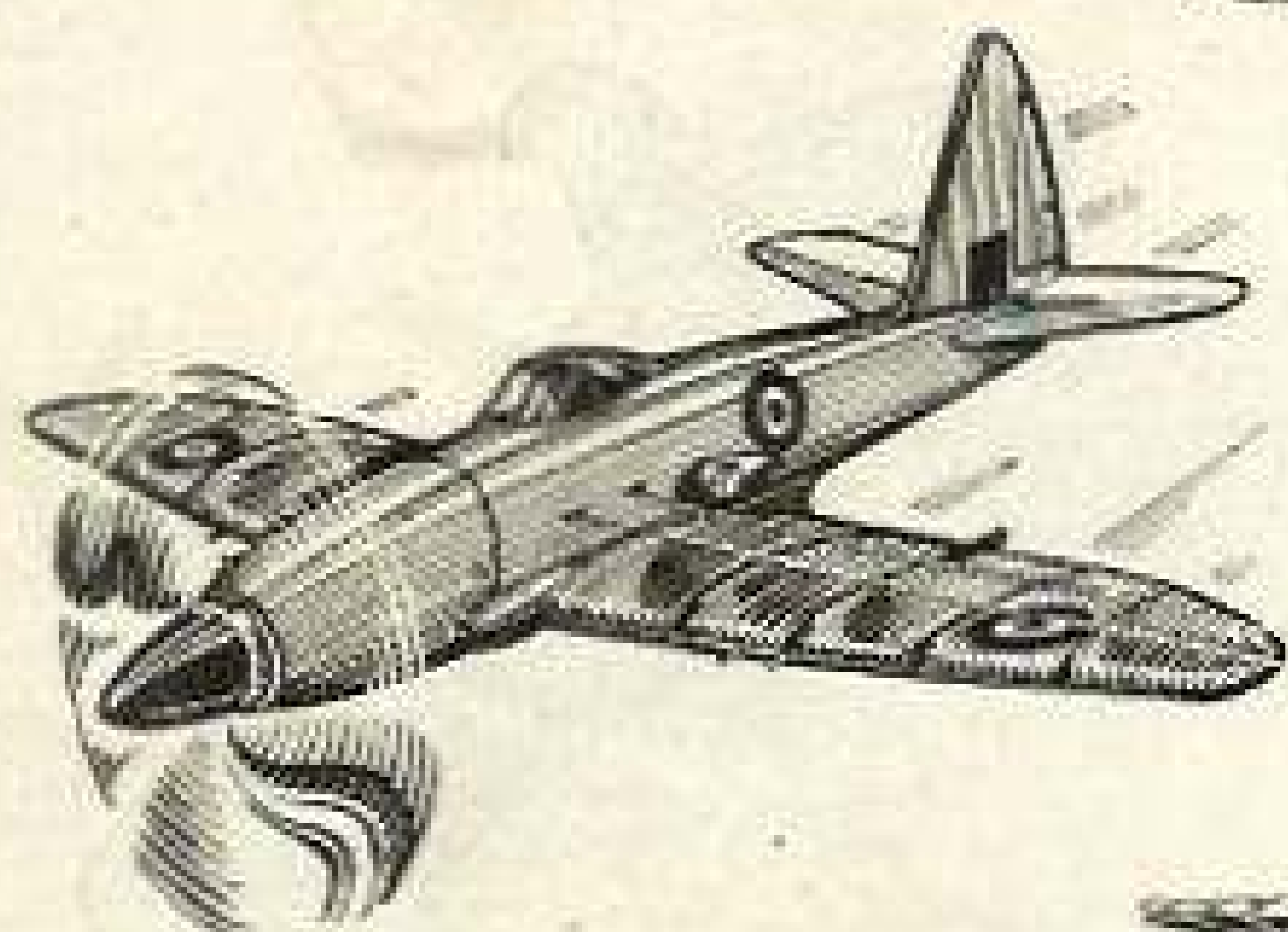


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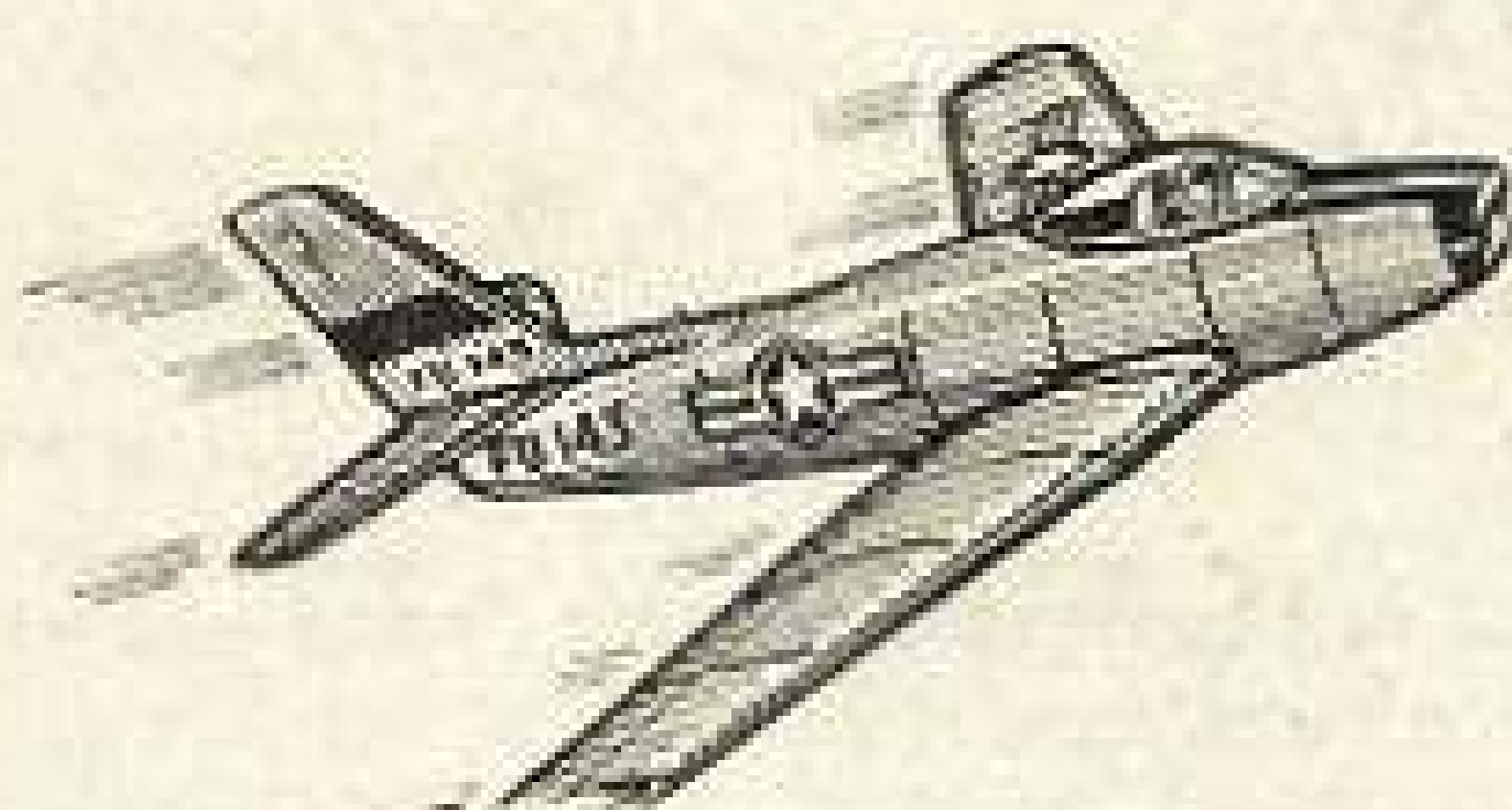
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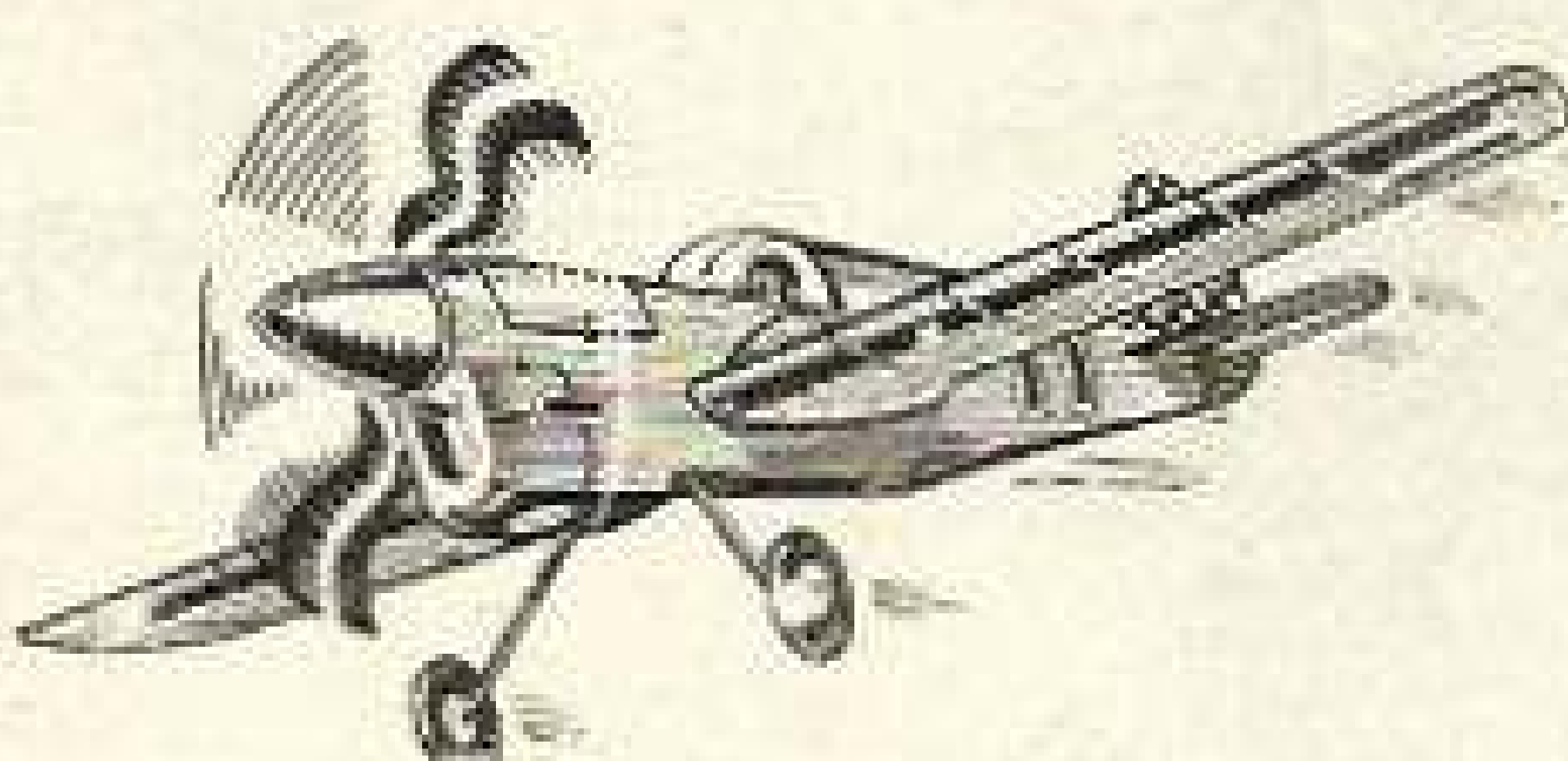


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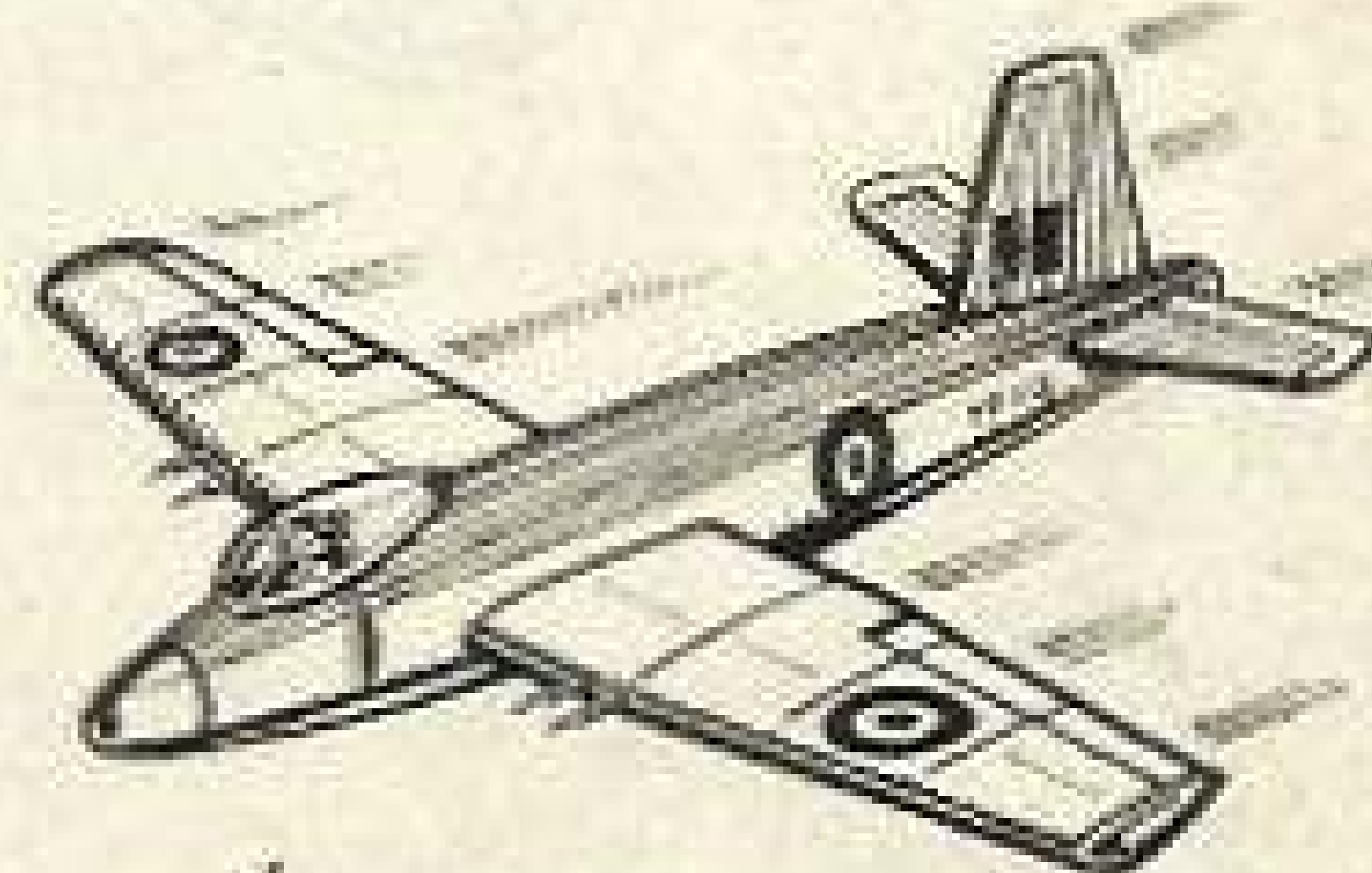
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