

SPRING ISSUE Vol. II., No. 4.

model 2!

Hobbies

MODEL AIRCRAFT ★ RAILWAYS ★ RACE CARS



FEATURES ★ MODEL RAILWAY & MODEL CAR 1/32 NATS.—PLANS B CLASS
T/SPEED, CLASS 1 STUNTER & F/FLIGHTER—HURRICAR

E.D.

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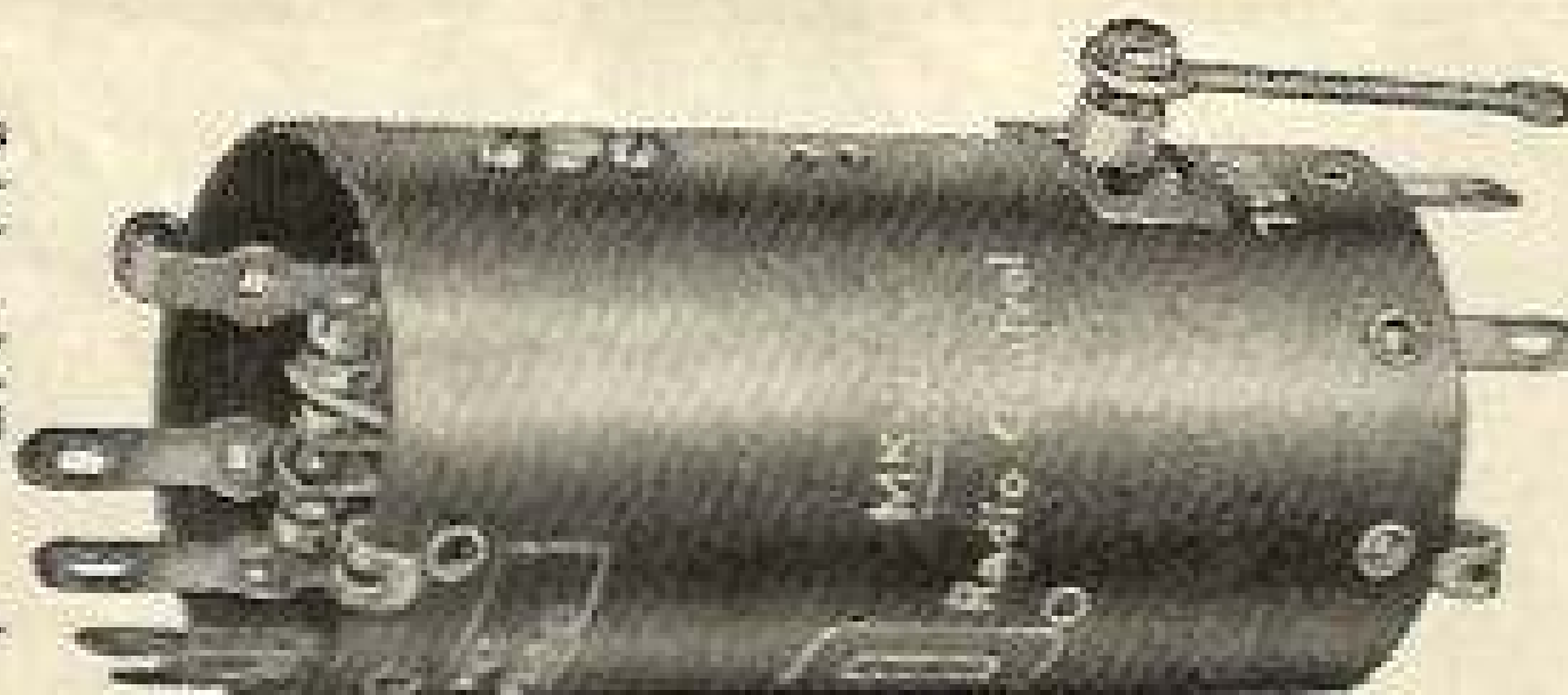
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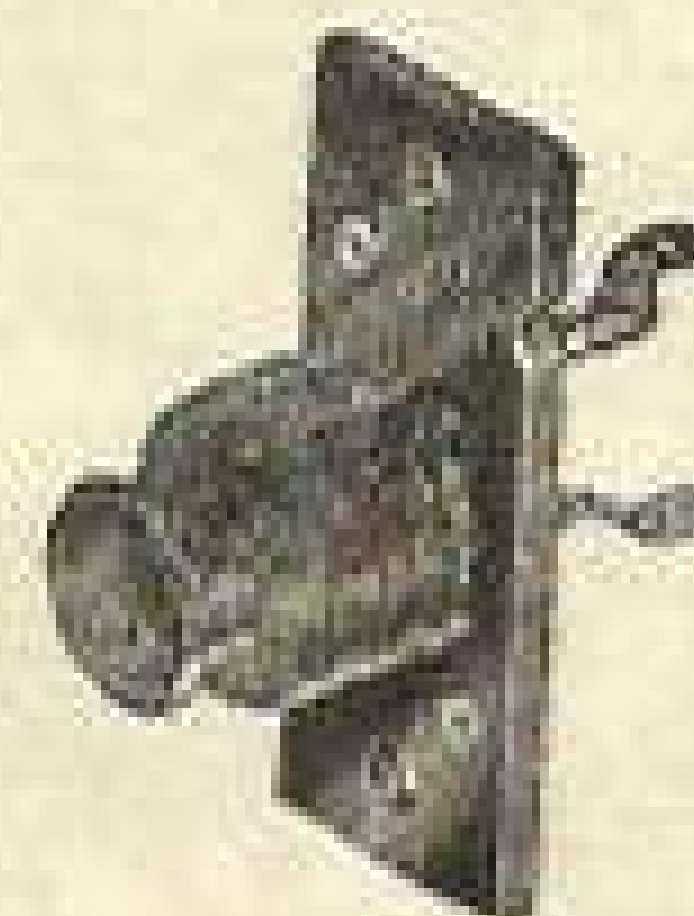
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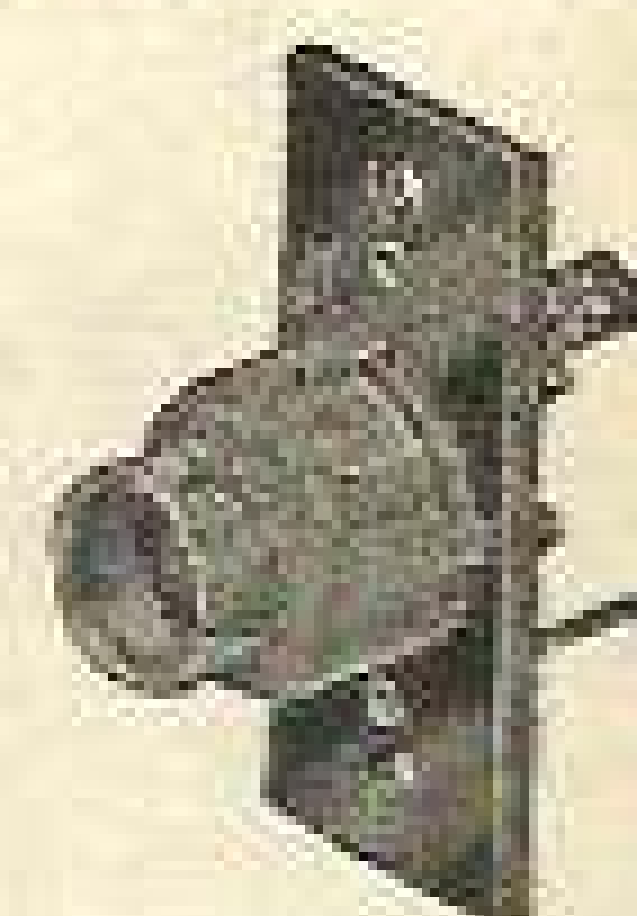
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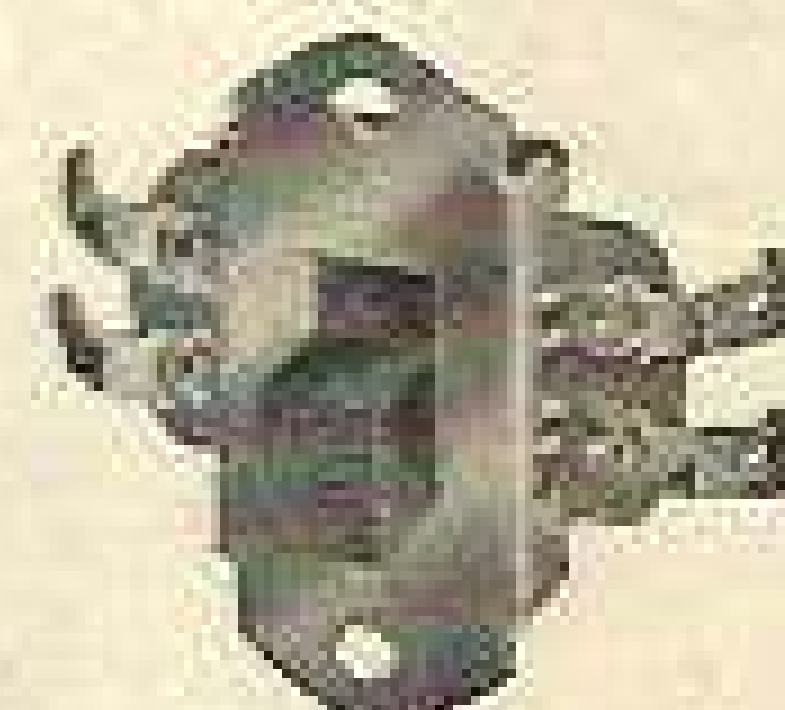
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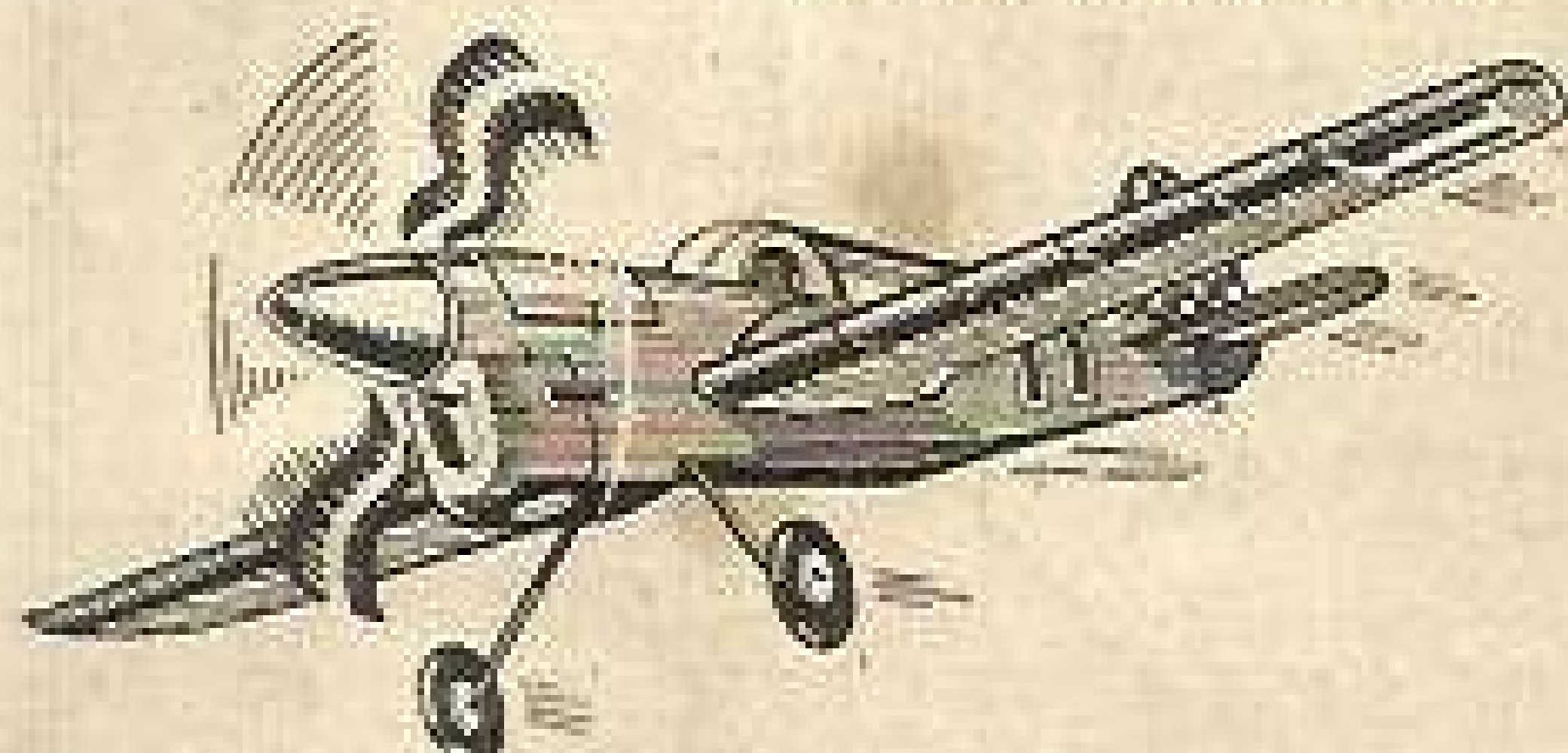
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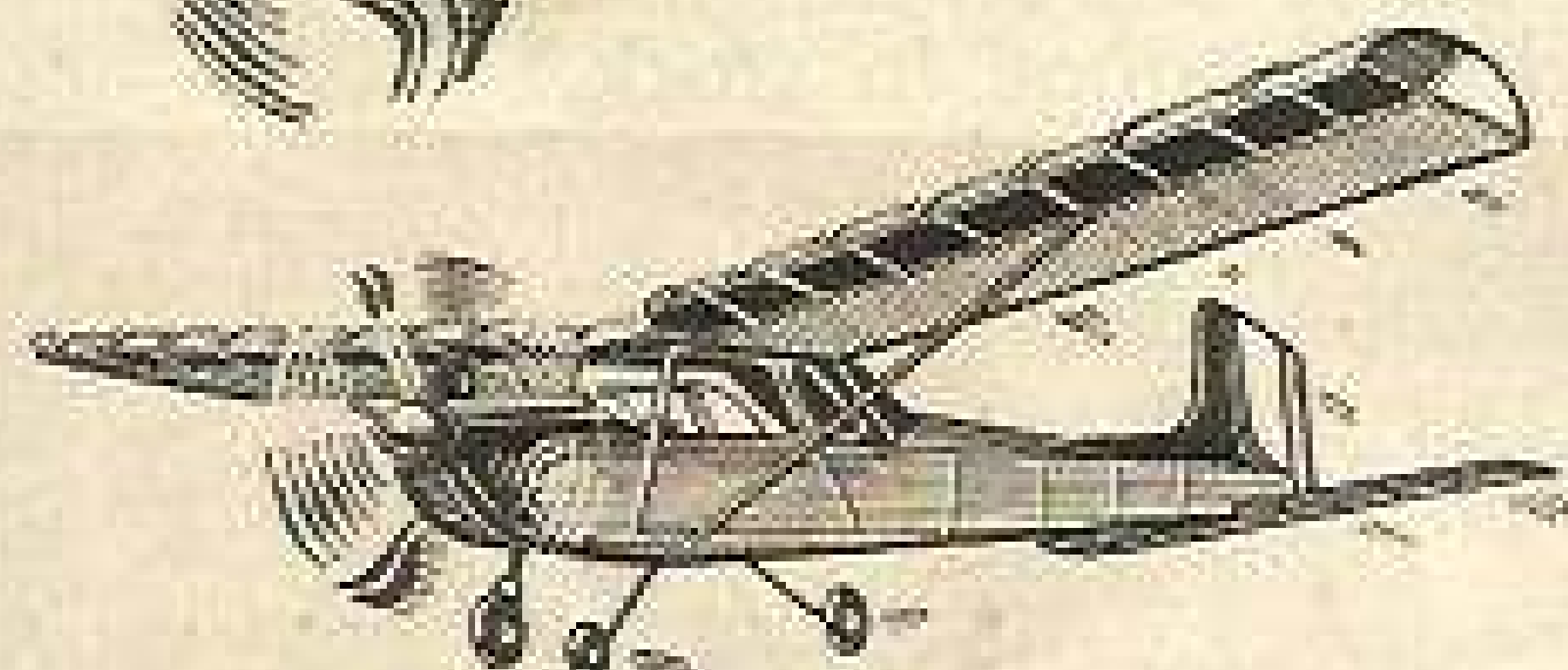
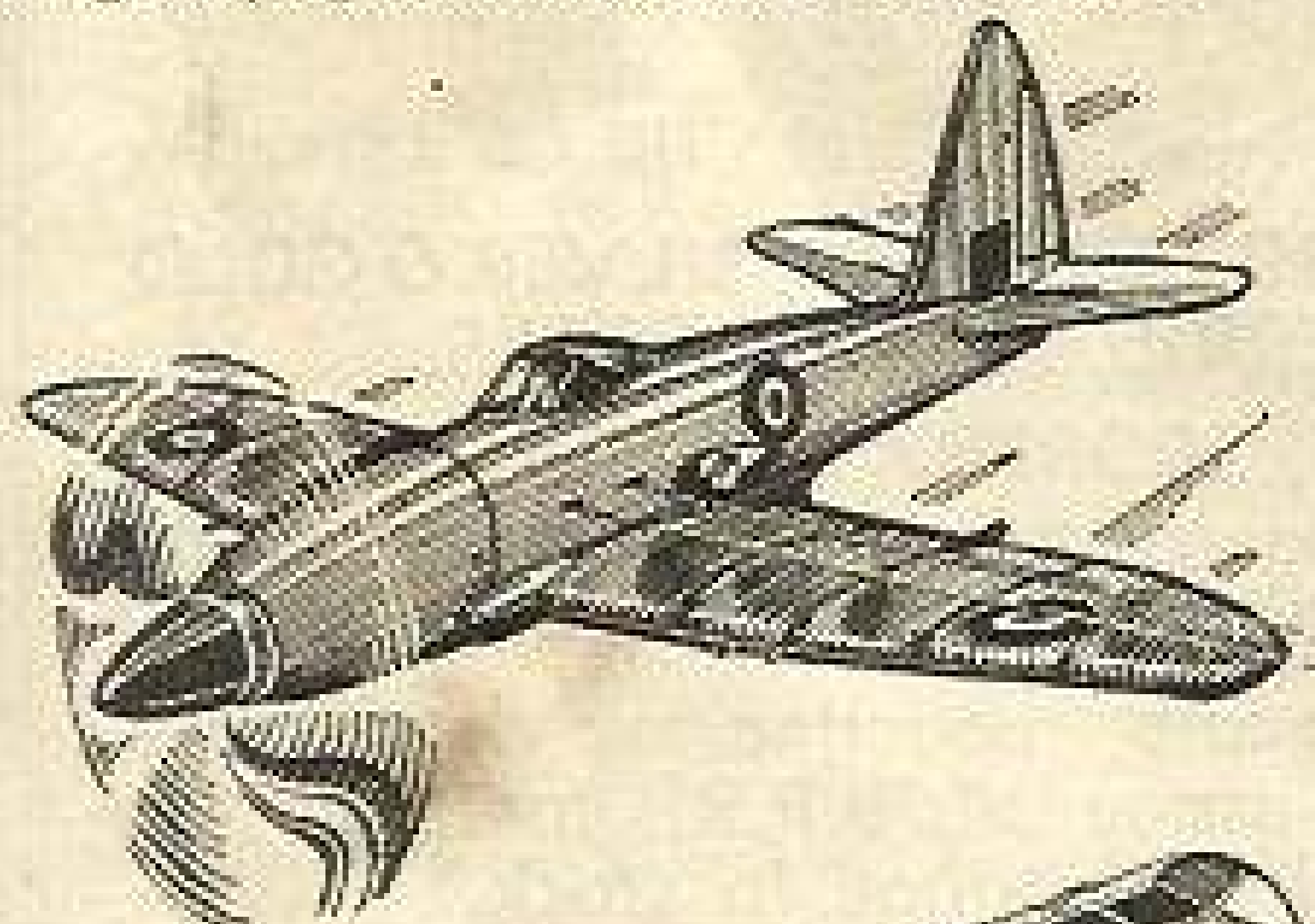


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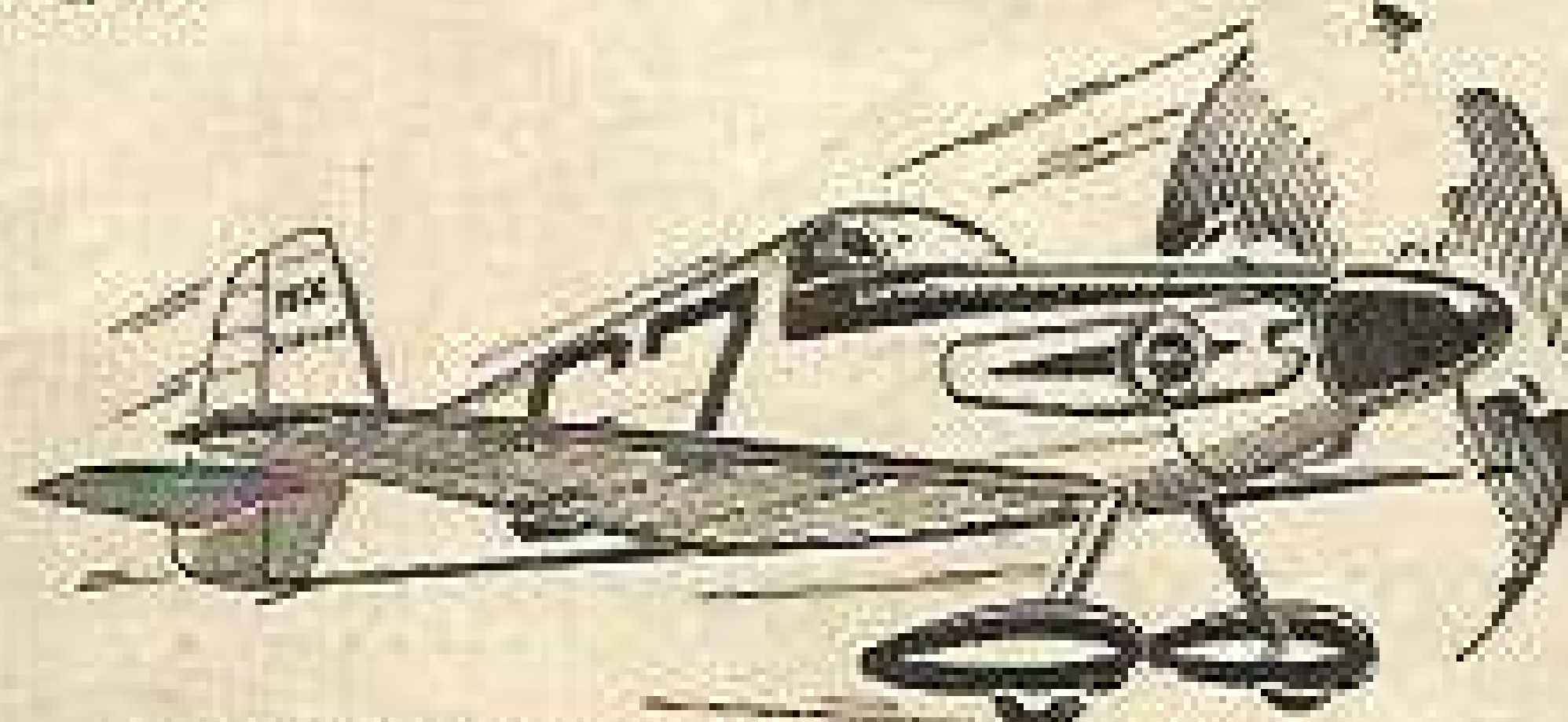
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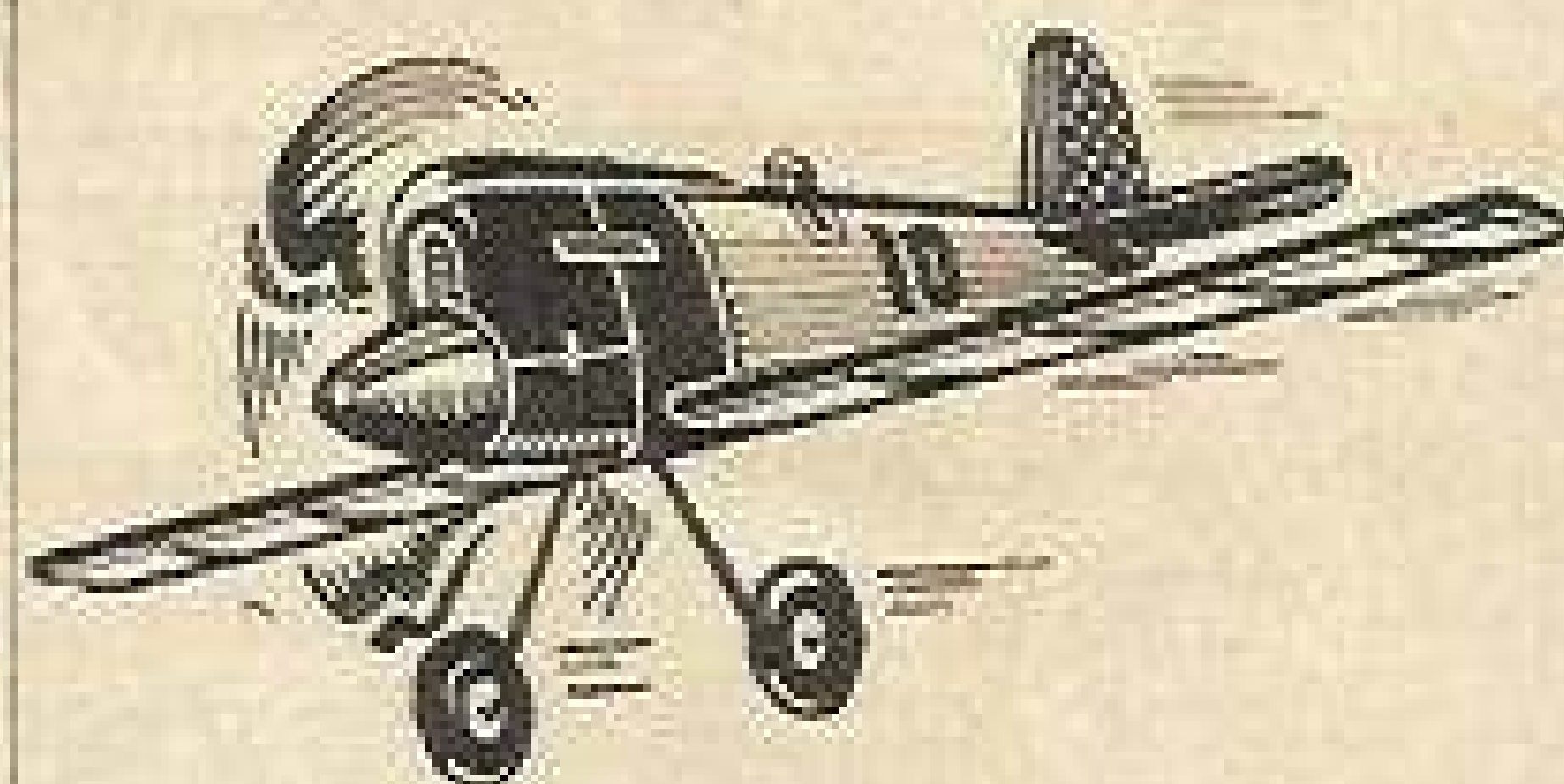
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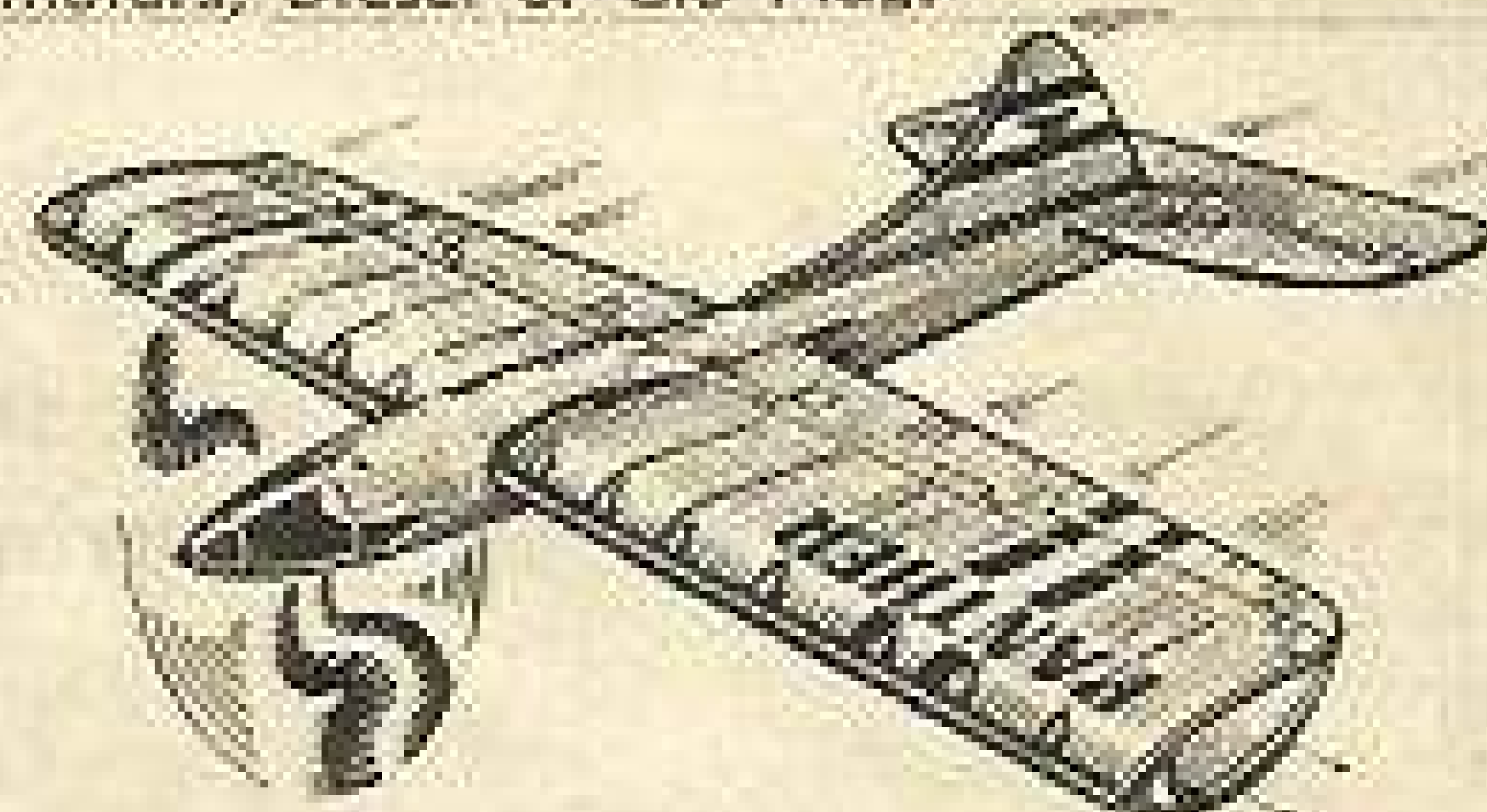
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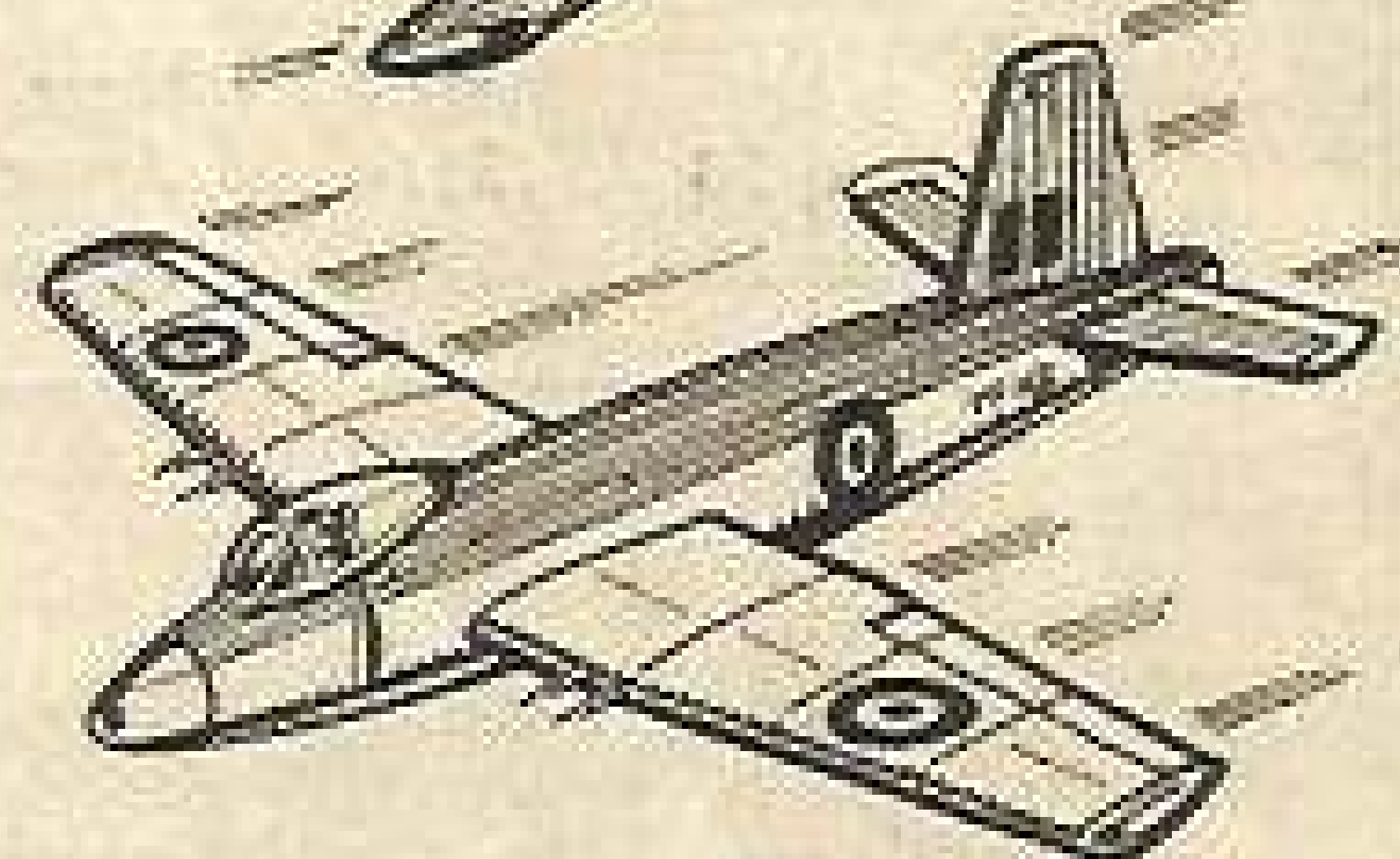
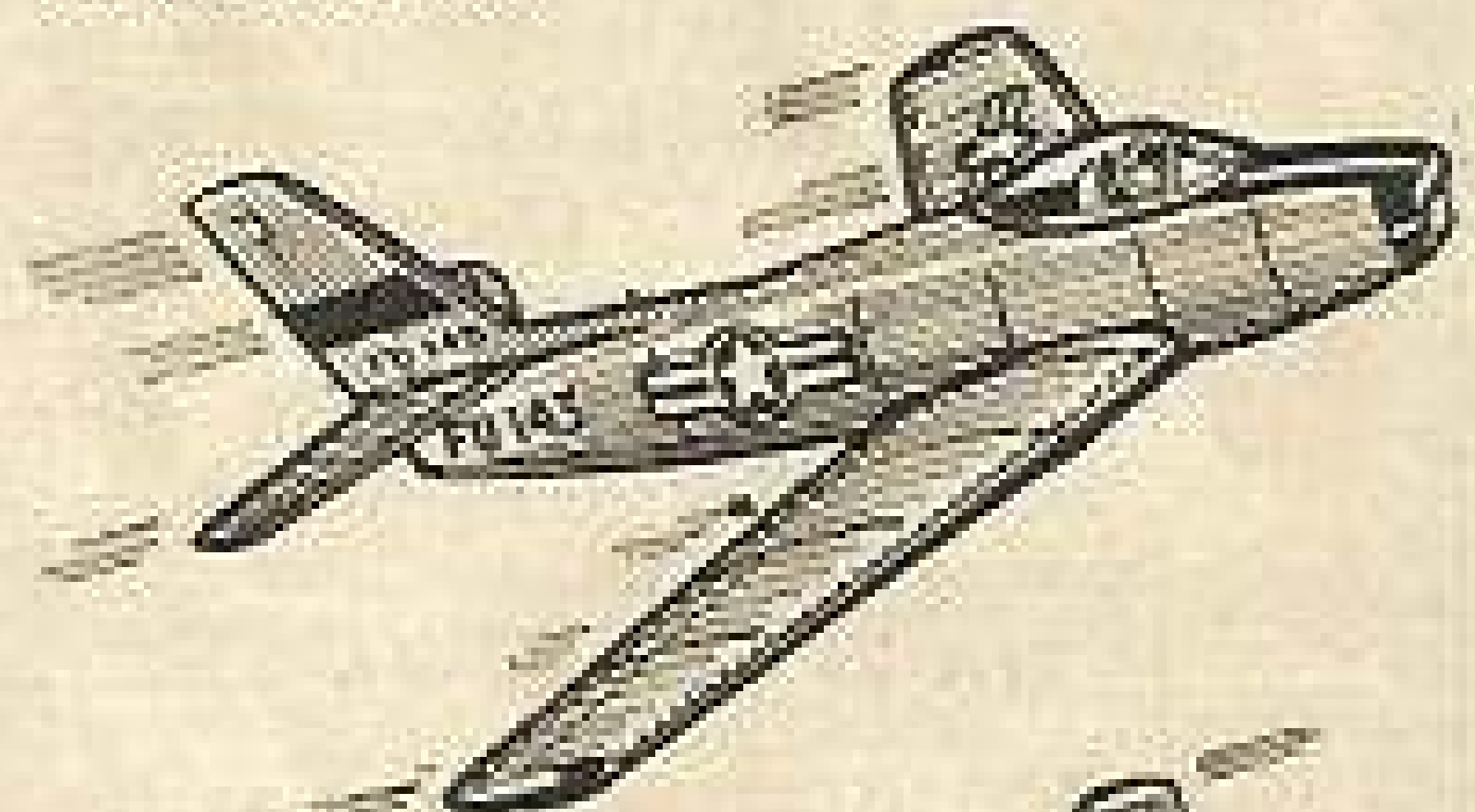


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AUSTRALIAN *Model* HOBBIES

Vol. II, No. 4.

SPRING ISSUE, 1952

EDITORIAL

Well, Model Hobbies is with you again, perhaps you thought that it had slipped out of existence, but here it is back again bigger, and we hope, better than before.

But we are very disappointed at the quality of the reproduction on many of our pages, which were printed offset not by our regular printers (Specialty Printers). High hopes were—and are—held for this type of layout and method of printing, but unfortunately "something" went wrong in the photographic side of the reproduction, which resulted in a finished job FAR, FAR BELOW the standard we were expecting.

We do regret that production of the magazine had gone too far to turn back after the error had been found, but you can be sure we have learned our lesson, and will take care to see that this mistake will not occur again.

For the technically minded who may like to know what happened in the reproduction we explain that the whole of one form (16 pages) was reproduced as a complete halftone, instead of a combination of halftone and line negatives for the etching of the printing plate.

We must apologise for the small amount of club news in this issue, but advertising commitments forced us to reduce this feature heavily, although we promise a full coverage in the next issue. So let us have details of your club's activities as soon as possible.

Again we point out that only through the support of our advertisers are we able to publish Model Hobbies, and ask you, wherever possible, to support these advertisers, for without them we would have no magazine.

Change of ownership, method of printing of Model Hobbies, and—we anticipate—the addition to the staff of one of Australia's most experienced modellers will mean the regular publication of our magazine.

Your support, in the way of contributions, from the modellers, and advertising from the trade houses, is still most important, and we ask that you do your best to bring about a better, and more regular Model Hobbies with your support.

BILL EVANS.

COVER STORY.—TEAM SPEED is proving the most popular and successful of all control line model flying events, and pictured on our cover this issue is prominent Sydney modeller Wally Judd with his latest team speed models. One a Frog Vantage kit model, the other an original design by Wally, powered with an Orwick 29 motor, which according to reports from many quarters, is absolute "tops" in model motor performance.

STOP PRESS:

1952 INTERNATIONAL WAKEFIELD RESULTS

1st. A. Blomgren, SWEDEN; 2nd. Nilborn, SWEDEN; 3rd. A. Ellila, FINLAND; 4th. S. Iustrati, ITALY; 5th J. Bilgri, U.S.A.

Weather conditions were poor. Only three Australian models were despatched, Wally Reeve, who placed 46th, Lance Hopkins 58th, and Stan Grey 62nd.

Advertising Office: A.M.H., 9 Sixth Avenue, Helmsdale, S.A.

Editorial Address: Editor, A.M.H., 9 Sixth Avenue, Helmsdale, S.A.



TEAM SPEED

TEAM SPEED. HERE'S A GAME WITH PLENTY OF FUN AND EXCITEMENT, AND ALTHOUGH FAST AND FURIOUS, CASUALTIES IN THIS TYPE OF MODEL FLYING ARE FAR LESS THAN MOST OTHER BRANCHES OF AEROMODELLING.

FOR THE NEWCOMER, TEAM SPEED OFFERS AN EASY TO BUILD MODEL, AND A CHANCE TO COMPETE ON FAIRLY EVEN GROUNDS WITH THE EXPERT. THE EXPERT NEED NOT FROWN ON IT FOR TEAM RACING OFFERS PLENTY FOR HIM TO PERFECT. RAPID ENGINE STARTING, EFFICIENT FUELS, RUGGED LIGHTWEIGHT CONSTRUCTION, ETC.

TO BOTH THE NEWCOMER AND THE EXPERT TEAM SPEED OFFERS FAST MAN TO MAN—MODEL TO MODEL COMPETITION.

THE SUCCESS OF THESE LITTLE RACERS AT THE LAST TWO "NATIONAL CHAMPIONSHIPS," WHERE THEY WERE DEFINITELY THE HIGHLIGHT OF THE SHOW AND WERE AMONGST THE HIGHEST IN ACTUAL COMPETITORS — HAS PROVED THAT TEAM RACING IS "TOPS."

GET INTO THE MOST EXCITING FORM OF AEROMODELLING WITH THE "STARBOMB"—PLANS OF WHICH APPEAR ON LATER PAGES. A commercially designed model, which "has what it takes."

Construction is simple, and no "difficult to get" wood sizes are used.

This design is a direct development of the "Firecracker" Team Speedster, dozens of which have been built and flown since the original design was published in 1930, and these models have been responsible for a design which now incorporates the experience of a great number of modellers, the "STAR SERIES"—"STARBOMB," "STARHELL," and the "STAR-CRACKER."

Building time has been kept to a minimum, yet good looks, and constructional strength have been maintained.

Beginners are reminded that TEAM SPEEDSTERS of simple construction, such as a "Star" model, are ideal first models, as they are simple to fly, and are rugged enough to take the hard knocks a learner deals out to his model.

The "Star" models are designed to appeal to the expert, but construction is simple and with full instructions, are suitable for the beginner.



BUILDING SCHEDULE:

1. STUDY PLAN WELL BEFORE COMMENCING CONSTRUCTION, noting the sizes of wood necessary for various parts.

FUSELAGE. Top: $\frac{1}{8}$ " medium balsa. Bottom: medium $\frac{1}{8}$ " balsa overlapping $\frac{1}{8}$ " balsa at front. Sides:

Starbomb

CLASS "B"
TEAM SPEED RACER
FOR CLASS IV MOTORS

hard $\frac{1}{4}$ " balsa. Motor Mounts: $\frac{1}{4}$ " x $\frac{1}{4}$ " hardwood. Cowling, Front: Hard balsa block. Cowling, Top: aluminium sheet. Firewall (front bulkhead): 3-16" plywood. Bulkheads: $\frac{1}{4}$ " balsa.

2 Cut firewall to accurate shape, motor mounts, and cross piece to size. Form undercarriage from steel wire.



Drill firewall to take split pins which fix undercarriage. Slide loops of split pins over undercarriage wire, and push pins through firewall holes, place washer over each pin, then bend out flat and hammer lightly. Cover with several coats of cement.

3. Cement motor mounts into firewall, and cross piece between mounts. Small brads driven through mounts into firewall and cross piece (which is the control plate mounting) will help assembly. Check against plan to see that mounts are square with firewall—all ways, and that they are parallel. Set this assembly aside until THOROUGHLY DRY.

4. Cut out fuselage sides so that they match the plan accurately, making certain wing and tailplane slots are exactly level with plan. Pin the fuselage sides into position each side of the "motor mount assembly." Check positioning. A piece of balsa slid into the tailplane slots will help align sides. Make sure sides are cemented well, and set aside to dry.

5. Bend up the tailskid from 1-16" steel wire—as shown on plan—and bind to a piece of hard $\frac{1}{4}$ " balsa shaped so as to fit between sides at rear of fuselage. Use thin fishing line—or similar—for binding, and coat with cement.

6. Pull fuselage sides together at rear and cement tailskid block in position.

7. Cut out fuselage bulkheads from $\frac{1}{4}$ " balsa, and cement

TEAM
RACING



Starbomb *Continued*

between fuselage sides as indicated on plan. Use pins to hold pieces in place whilst cement is drying.

8. Fill in under motor mounts with a piece of $\frac{1}{2}$ " balsa. Use ample cement in fixing this into place.

TAILPLANE. Elevators (movable surfaces): hard $\frac{1}{8}$ " sheet balsa. Stabiliser (fixed surface): hard $\frac{1}{8}$ " sheet balsa. Elevator Rod: $\frac{1}{4}$ " hard wood dowel which is sand-papered top, and bottom, so as to reduce to $\frac{1}{8}$ " thickness. Hinges: household tape. Control Horn: 1-16" steel wire. (Aluminium sheet used on class "A.")

9. Cut tailplane components to shape from hard $\frac{1}{8}$ " balsa.

10. Cement the two elevators to hardwood dowel, and allow to dry.

11. Sandpaper top and bottom of hardwood dowel until flush with elevators ($\frac{1}{8}$ ").

12. Sandpaper elevator to a wedge-shaped cross section. Give dowel and adjacent balsa three coats of cement.

13. Sandpaper stabilizer to a rounded leading and trailing edge, and also the round off the front of the hardwood dowel.

14. Fix elevator to stabiliser with hinges made from household tape. Place a drop of castor oil in centre of hinges so as they will not become brittle when tailplane is tissue covered and doped.

15. Mount completed tailplane assembly in fuselage, cementing well both inside and out of fuselage. A fillet of plastic wood is desirable.

16. Bend up elevator control horn. Drill elevator carefully and fix horn in place, then add several coats of cement.

WING. Bottom: Medium sheet balsa. Ribs: Medium balsa. Leading Edge: $\frac{3}{8}$ " hard balsa. Covering: heavy-weight tissue, and 1-16" balsa on centre section.

17. Cut bottom of wing, ribs, and leading edge to shape.

18. Cement leading edge onto top of sheet bottom, and ribs to rear of leading edge.

19. Sandpaper leading edge to rounded airfoil shape, taper trailing edge down as thin as practical, and cover centre section with 1-16" sheet balsa.

20. Give wing a thorough sandpapering, and add lead weight to outside wingtip, fix with heavy coats of cement. Fix wire line guide in other wingtip.

21. Cover wing with heavyweight tissue, give three coats of heavy dope, and set aside to dry.

22. When wing is quite dry mount in fuselage. Several coats of cement are MOST NECESSARY in fixing wing. A fillet of plastic wood is helpful, adds to the appearance of the model. Allow wing to dry thoroughly in fuselage.

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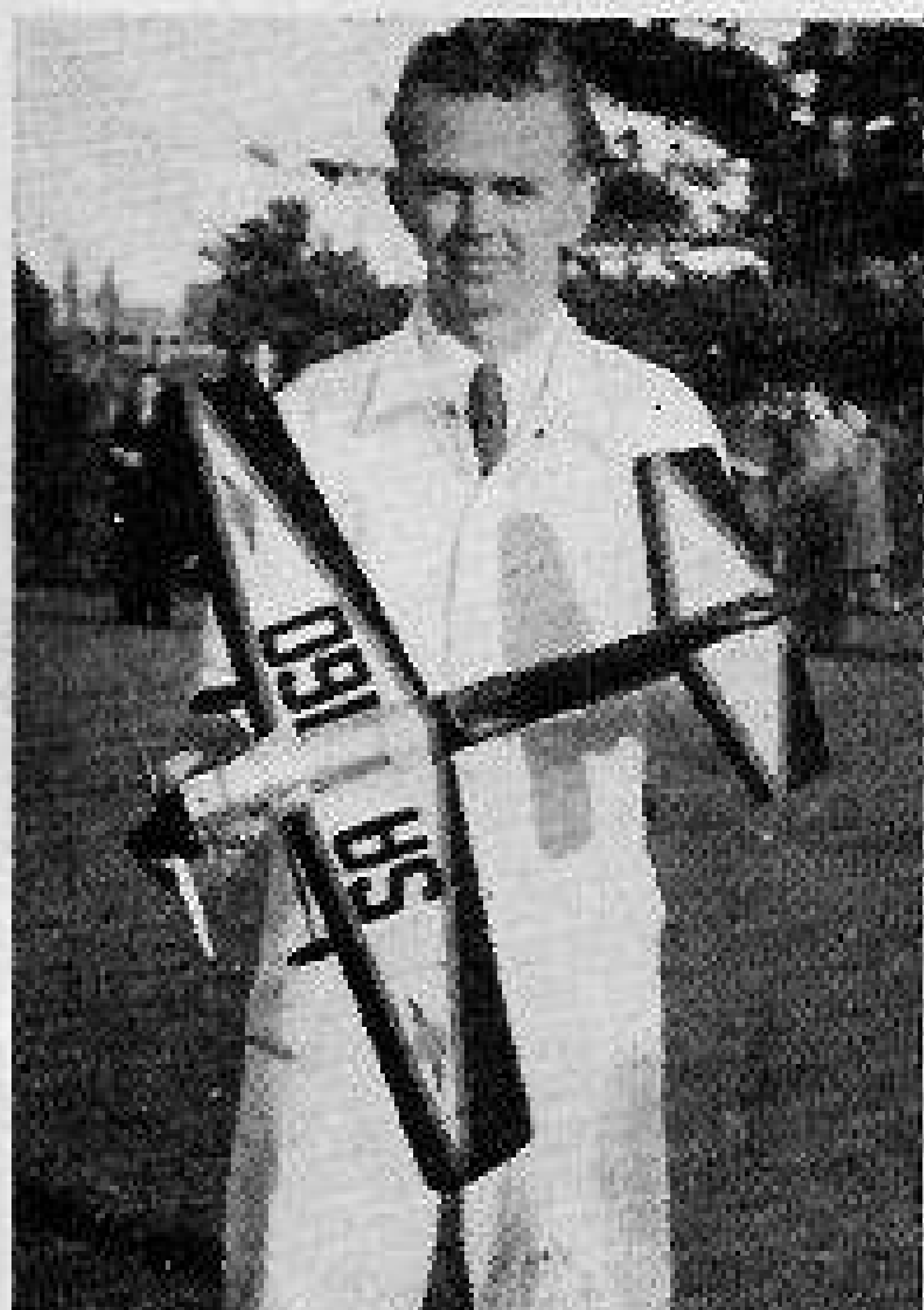
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Ron Duncan with the much modified "Firecracker" forerunner to the "Starbomb."

23. Drill through hardwood control plate mounting piece between motor mounts. Allow drill to go right through wing so that mounting bolt can be pushed through.

24. Push $\frac{1}{8}$ " steel mounting bolt through hole, and screw on nut, then a washer, the control plate, another washer, and then another nut. Solder this final nut for security.

25. Cut piece of heavy steel wire to length for control rod. Bend rod at right angles one end leaving a short arm $\frac{1}{4}$ " long. Check plan for washer installation on control rod fixing to control plate, and fix in place.

26. Fix elevator and control plate at neutral with pins, and measure off control rod to length. Bend rod similar to other end, and fix in elevator horn with a washer each side. Check all soldering of control assembly and correct working. Place a few drops of oil, or coat with vaseline the wearing points.

FUSELAGE (Part 2):

27. Fuselage can now be completed, first by adding the top, which must be allowed to dry thoroughly before carving to contours of fuselage. Then cement the bottom in place. (Note that this overlaps the $\frac{1}{2}$ " sheet balsa beneath the motor mounts).

28. When sure cement is dry carve off the edges of the fuselage as much as possible so as to give an oval cross section. Always use sandpaper on a block—a balsa block 2" x 6" is ideal. When sandpapering begin with medium coarse and finish with 00 sandpaper.

COVERING:

Wing: Heavyweight tissue. Tailplane and Fuselage: Lightweight tissue.

29. Wing is of course covered and doped before construction has reached the above stage, but fuselage and tailplane must also be covered. Use the lightweight tissue, and attach with dope. Cut the tissue roughly to the shape required, place over the area to be covered,

and brush the dope through the tissue. Rub all air-bubbles from beneath tissue with hand whilst dope is wet. You will find that tissue covering of the multi-curved surfaces is simple if tissue is well rubbed down whilst wet.

30. Apply at least three coats of dope to entire model—sandpapering between each coat with very fine sandpaper or dry rubbing paper. Leave model for as long as possible for dope to dry right out before applying fuelproof, as it is possible to get a chemical reaction between some fuelproofers, and the cellulose dope, which retards the final drying.

31. Choose a bright combination of FUELPROOF colours, and apply three coats of thin mixture, allowing each coat to dry.

DETAILS:

Rules call for a team racer to have a large racing number on each side of fuselage, and official registration number on the starboard wing—upper surface.

TANK:

The fuel tank must be below 30 c.c. capacity as rules read that 30 c.c. of fuel must overflow tank and fueline. The cubic capacity of such a tank must be 1.8 cubic inches. Either make up your own tank from tinplate or brass sheet, or purchase a commercial Team Speed Tank from your model shop. Tank may be fitted to motor mounts by soldering a small lug on each side, and fixing with small screws.

MODEL SHOULD BE FLOWN ON 60 FOOT LINES.

SUITABLE MOTORS for class "B" models are the Frog 500, ETA 29, Amco 3.5, DC 350, E.D. 346 or the new Delta 490 as shown in the plan.

Motors for the smaller class "A" model are E.D. 246, Elfin 249, or 149, Sabre 250, Frog 250 or 150 or any similar "Hot" 1.5 to 2.5 c.c. motor.

SHOULD YOU BE A BEGINNER ASK YOUR LOCAL MODEL SHOP TO INTRODUCE YOU TO AN EXPERIENCED MODELLER TO HELP YOU OVER ANY DIFFICULTIES IN CONSTRUCTION OR FLYING. IT IS YOUR MODEL DEALER'S JOB TO HELP YOU AND HE SHOULD BE PLEASED TO DO SO.

APPROXIMATELY HALF-SIZE PLANS APPEAR ON THE FOLLOWING TWO PAGES.

NOTE.—Unfortunately when reduced these plans are slightly less than half size, but if the following specifications are used, the plans can be treated as half size, and slight increases made where necessary as indicated by these specifications.

WING:

MAXIMUM CORD (width) of WING, 6 inches.

SPAN (length) of wing, 14 $\frac{1}{2}$ inches.

CORD (at tip rib), 3 $\frac{1}{4}$ inches.

FUSELAGE:

LENGTH, less spinner, 23 inches.

ALL OTHER MEASUREMENTS WILL BE SATISFACTORY IF MADE TWICE SIZE OF PLAN. Full size plans are available.

HALF SIZE PLANS



Starbomb

★ ★ ★ ★ ★

FRONT OF COWLING CARVED FROM HARD BALSA BLOCK

BEFORE FIXING TANK OR MOTOR IN PLACE GIVE ENTIRE INSIDE OF COWLING — WOOD PARTS — MOTOR MOUNTS, FIREWALL, AND ENVIRONS SEVERAL COATS OF CEMENT AND WHEN DRY SEVERAL COATS OF FUELPROOFER. THIS IS IMPORTANT TO THE LIFE OF THE MODEL.

TOP OF COWLING IS FORMED FROM ALUMINIUM SHEET

THIS PART OF TOP FUSELAGE IS FORMED FROM 1" BALSA CEMENTED BETWEEN THE SIDES AND CARVED ROUND AFTER CEMENT IS QUITE DRY

CANOPY OR CELLULOID Moulding USING TWO CIAL GEE BEES

BIKE SPOKE

ALUMINIUM

BULKHEAD "A" 3/16" PLYWOOD

1" SHEET BALSA SIDE

FUEL TANK

NOTE HOW 1" SHEET BOTTOM PROTRUDES CEMENT OVER 1/2" FILL IN ALLOW TO DRY THEN CARVE TO CONTOURS OF FUSELAGE

UNDERCARRIAGE FAIRINGS ARE CARVED FROM HARD 1/2" BALSA AND HELD IN PLACE BY BINDING WITH TISSUE TO THE 1/2" WIRE U C LEGS AFTER COATING WOOD, WIRE AND TISSUE WITH CEMENT

LEAD OUT HOLES MAKE CERTAIN THAT THESE ARE LARGE ENOUGH SO AS NOT TO CAUSE ANY DRAG ON THE ACTUAL LEAD OUT WIRES WHICH ARE FORMED FROM 1/32" THICK WIRE

NOTE THAT FUSELAGE BOTTOM IS NOT FIXED INTO PLACE UNTIL AFTER THE CONTROL SYSTEM IS COMPLETELY INSTALLED AND WORKING CORRECTLY

COVER ENTIRE MODEL WITH SANDPAPER AND GIVE DOPE — SANDPAPER COAT WITH NIPER BEFORE PAINTING FUELPROOFER OF SYNTHETIC PAINT JOB

CONTROL ROD IS FORMED FROM 14 GAUGE STEEL WIRE (APPROX. 9-64") BE SURE THAT THIS MOVES FREELY THROUGHOUT THE BULK HEADS. FIX THIS IN PLACE AND HAVE COMPLETE CONTROL SYSTEM WORKING BEFORE FIXING BOTTOM OF FUSELAGE

ONE OUNCE WEIGHT MUST BE ADDED TO OUTSIDE WING TIP TO HELP KEEP LINES TIGHT

COVER WITH TISSUE

ELEVATOR RINGES ARE FORMED WITH HOUSEHOLD TAPE

TAIL PLANE AND ELEVATOR HARD 1/2" SHEET BALSA

LINE GUIDES FORMED FROM 1/16" STEEL WIRE. NO SHAPE AND MANNER OF FIXING USE SEVERAL COATS OF CEMENT ON THIS ATTACHMENT. GUIDES MUST BE FIXED TO WING BEFORE COVERING

SOLID 1/2" SHEET FILL IN BENEATH MOTOR MOUNTS FROM BULKHEAD FORWARD. THIS ALLOWS UNDER SIDE OF FUSELAGE NOSE TO BE ROUNDED OFF TO FIT SPINNER

DRILL HARDWOOD MOTOR MOUNTS TO TAKE 1/2" DOWELS TO RETAIN FRONT MOTOR COWLING

CONTROL PLATE IS MOUNTED TO HARDWOOD CROSS PIECE BETWEEN MOTOR MOUNTS WITH 1/2" STEEL BOLT. MOUNT WITH A WASHER EITHER SIDE OF THE CONTROL PLATE AND SOLDER THE NUT IN PLACE FOR SAFETY

SANDPAPER TOP AND BOTTOM OF DOWEL DOWN TO FIT FLUSH WITH ELEVATOR (I.E. 1/2" THICK)

1" HARDWOOD DOWEL

CONTROL HORN DETAIL — CAREFULLY BEND UP ELEVATOR CONTROL HORN FROM 1/16" STEEL WIRE AND FIX IN HARDWOOD DOWEL AS SHOWN IN SKETCH. BE SURE TO GIVE THIS ASSEMBLY SEVERAL COATS OF CEMENT. A SMALL TRIANGULAR PIECE OF BALSA CEMENTED BEHIND WIRE INCREASES THE RIGIDITY

FIX TAIL PLANE IN PLACE AND ATTACH CONTROLS BEFORE FIXING TOP OF BOTTOM OF BALSA

CONTROL PLATE HOW CONTROL PLATE BY TWO ONE SOLDERED TO SIDE OF THE PLATE

LEAD OUT WIRE CAREFULLY WOUND WILL NOT PULL CONTROL PLATE WHAT RIGHT ANGLES TO STRENGTH

CLASS "B"
TEAM SPEED RACER
FOR CLASS IV MOTORS

PILOT — CARVE PILOT FIGURE FROM PIECE OF SOFT BALSA AND PAINT IN SUITABLE COLOURS. ROUGH SHAPE OF BLOCKS SHOWN. CARVE TO THIS SHAPE FIRST THEN CUT AWAY HATCHED AREAS

BE FORMED FROM SHEET EITHER BY ONE PIECE, OR BY PIECES. A COMMERCIAL CANOPY IS IDEAL.

NOTE THAT FUSELAGE BOTTOM IS NOT FIXED INTO PLACE UNTIL AFTER THE CONTROL SYSTEM IS COMPLETELY INSTALLED AND WORKING CORRECTLY.

THE COMPLETE TAIL PLANE MUST BE FITTED IN PLACE AND ADJUSTED BEFORE TOP OR BOTTOM OF FUSELAGE ARE FIXED IN PLACE.

FIN (RUDDER) IS FORMED FROM 1/16" PLYWOOD OR HARD 1/4" SHEET BALSA.



BULKHEAD "B" 1/16" BALSA

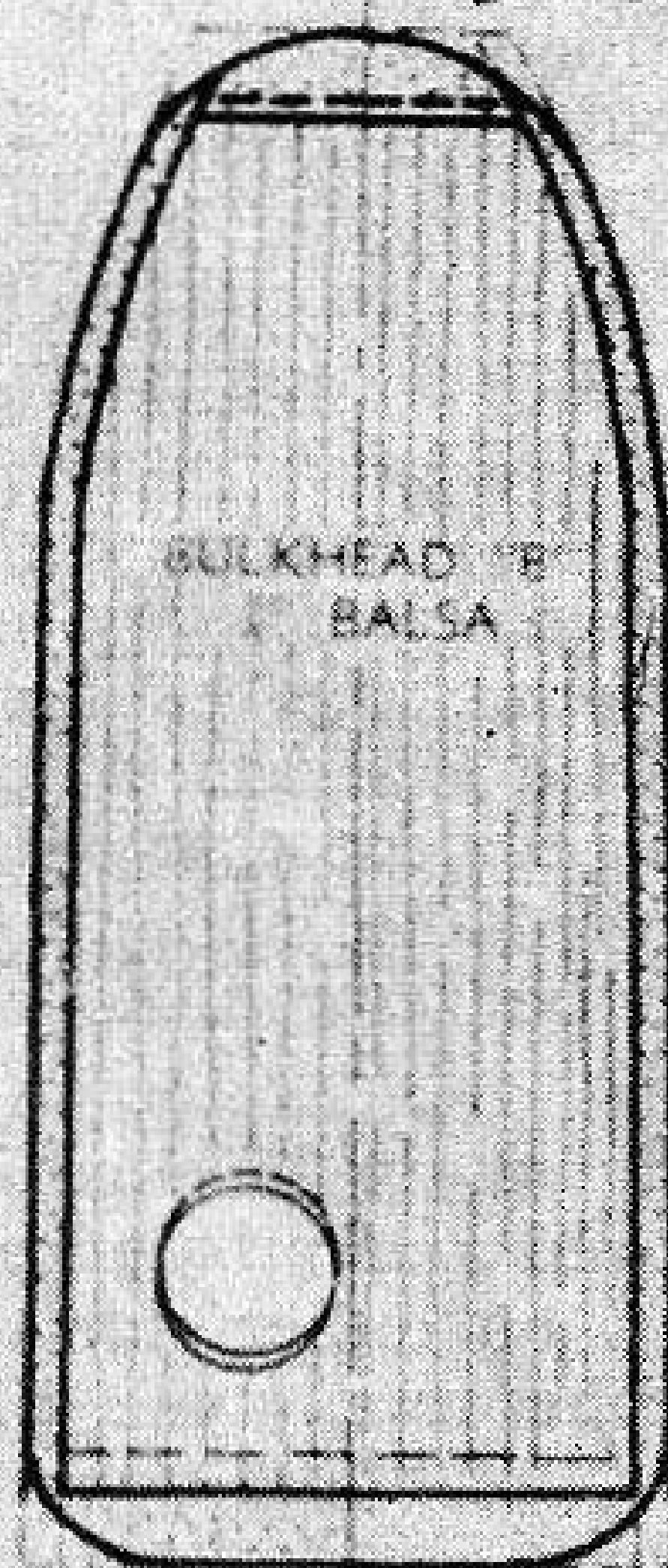
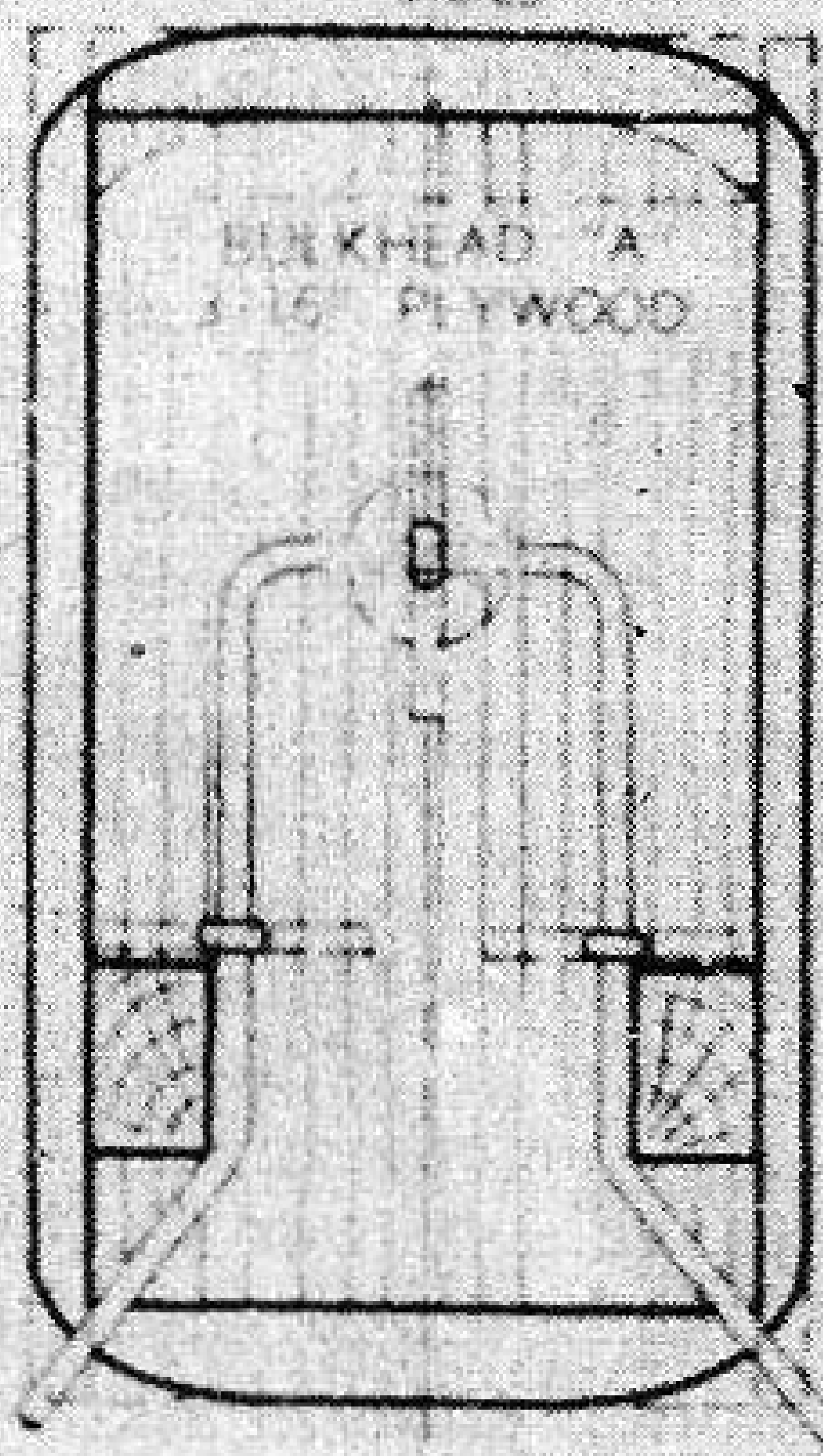
BULKHEAD "C" 1/16" BALSA

BIND TAILSKID TO PIECE OF HARD BALSA 1/4" THICK WHICH IS THEN CEMENTED BETWEEN FUSELAGE SIDES.

MODEL WITH TISSUE THREE COATS OF BETWEEN EACH SANDPAPER. USE AIRSPEED A GOOD GRADE ENAMEL FOR THE

LEADING EDGE 1/16" BALSA

BOTTOM OF WING 1/16" BALSA SHEET



UNDERCARRIAGE IS FORMED FROM 1/16" STEEL WIRE AND IS HELD TO PLYWOOD BULKHEAD WITH THREE SPLIT PINS.

NOTE HOW CORNERS OF FUSELAGE ARE CARVED AWAY TO GIVE A ROUNDED SECTION.

METAL COWLING IS HELD IN PLACE BY BICYCLE SPOKE SOLDERED TO TOP OF FUEL TANK.

FUEL TANK INSTALLATION HEIGHT DEPENDS UPON THE TYPE OF MOTOR TO BE USED. THE TOP OF TANK SHOULD BE LEVEL OR PERHAPS A LITTLE ABOVE THE SPRAY BAR OF THE MOTOR.

CEMENT PLYWOOD DISC TO FRONT OF NOSE.

COVER CENTRE SECTION OF WING TO THIS RIB WITH 1/16" BALSA SHEET

HARDWOOD MOTOR MOUNTS

ASSEMBLY NOTE: MOTOR IS HELD IN PLACE BY CUP WASHERS.

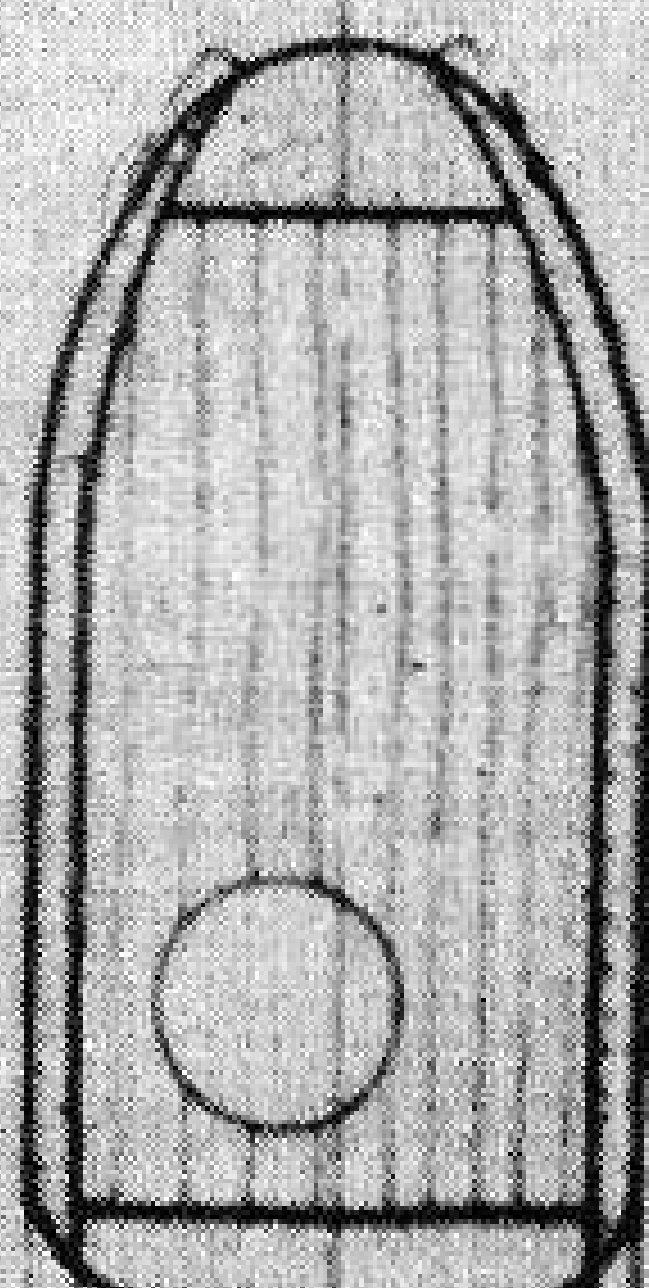
STUDY ENCLOSED PAMPHLET FOR ACTUAL BUILDING SEQUENCE AND FURTHER DETAILS OF CONSTRUCTION.

THOROUGHLY STUDY SKETCH AND PLAN BEFORE COMMENCING CONSTRUCTION. MAKING SURE THAT IT IS UNDERSTOOD.

Designed by Bill Egan

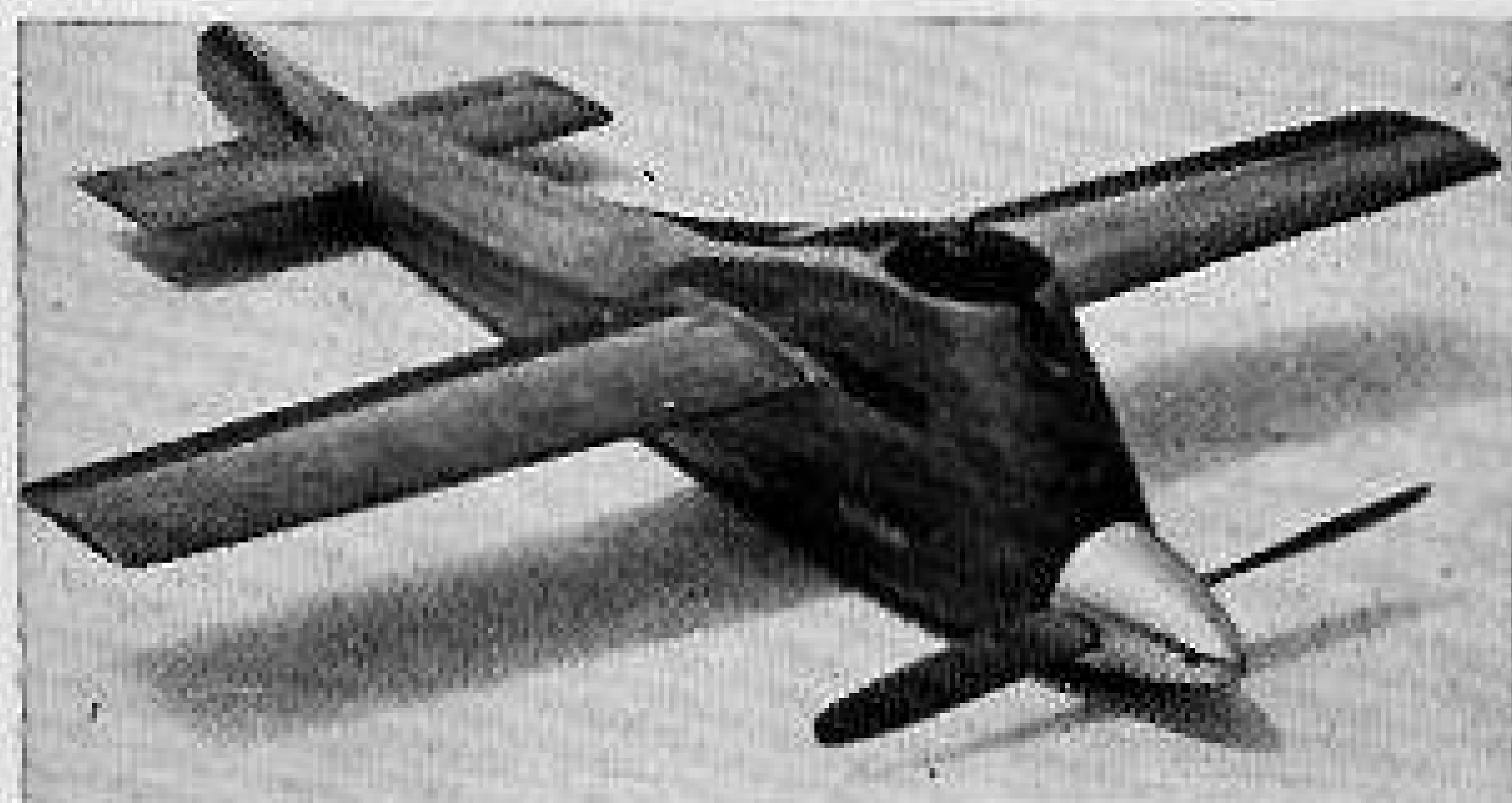
Starbomb

CLASS "B"
TEAM SPEED RACER
FOR CLASS IV MOTORS



BULKHEAD "C" 1/16" BALSA

ES MUST BE HELD IN PLACE FROM THE WIRE MAXIMUM



In a previous issue of "Model Hobbies" there was some information on the speed model known as "KOT-ARE II." It may be of interest to readers if I enlarge on some of the points that to me, appear to "pay off" with good results.

I make no claims that these points are the last word in development, far from it. I feel sure that there are many followers of speed flying who have carried ideas much further than I have done, however the following may just provide that one link in your own chain of ideas that will produce something exceptional.

Firstly I consider the engine, tank, and prop combination of major importance, and as such, has been given the bulk of attention.

In the .29 (5 s.s.) class a stock ETA 29 was carefully run in and then given very exhaustive tests on the bench to determine the most suitable fuels for conditions in Auckland district. When the best results were obtained it was evident that in the absence of additives such as nitro methane, and ethyl iodide something else would have to be resorted to so as to gain power desired.

In any racing set-up balance is a "must." The crankshaft was removed and rebalanced by removing a sizable part of the web on either side of the crankpin. On test this increased the revs. some 800 p.m. A magnesium piston was then machined up, with a modified deflector, and domed crown, and the cylinder head ground out until a smooth spherical shape resulted, which closely matched the piston shape. The compression ratio was increased to 11.5 to 1.

The crankshaft balance was further improved by the addition of a lighter connecting rod. The ideal seems to be about .6, by which I mean that the counterweight on the shaft should be .6 of the piston and conrod assembly.

The venturi was enlarged to 5-16th of an inch, and a needle valve with broader adjustment fitted.

Work done on the cylinder, was only to narrow down the support bars.

Timing, and overlaps are excellent as they are, and nothing is gained by enlarging them.

Needless to say everything inside was highly polished, and any places that could cause any friction were carefully eased, and we now had a motor that could really rev. The results showed an increase of from 13,000 R.P.M. to 15,500 R.P.M. with the same prop and fuel.

To develop props a good model was the next problem. The obvious seemed one which was fairly easy to build, was stable, and did not waste power by pulling like a shark on the lines. The general configuration of George Fong's "Hellrazor" offered easy building, but the rigging and cooling arrangements did not seem to be in keeping with my own ideas so these were modified after giving some thought to dimly remembered theory of flight lectures. It was thought that with the inset thrust, and "washed in" outer panel the take-off would be very criti-

Speed Notes & Tuning

by Ira Pepperell

cal. However, this, in theory, showed that if the model was stalled off the dolly auto rotation would take place due to the outer panel stalling first (because of its greater angle of attack caused by the "wash-in") and thereby keeping the lines tight. A further point is that gyroscopic precession is a counter clockwise circuit has a tendency to keep the nose out.

When proper flying speed has been reached the set-up changes to one of a flight rigged circle. In practice this has proved better than expected, the model being completely docile in all phases of flight.

The right prop was the next thing. I use a standard machine cut prop and trim the diameter and area until my motor is running at 15,500 R.P.M. on the ground. With this model a 10" pitch seems the most satisfactory. The diameter in this case is 7 3/8 inches, although I have had good results with 7 inches. It seem the only satisfactory way to arrive at the correct prop is to cut and try to keep a close check on all results as the combination of prop and model differs so widely, even on two supposedly similar models.

The reason I use machine cut props is that it is exceedingly difficult to hand carve a prop with identical pitches on each blade. Blades with identical pitch have always given me in practice a pronounced improvement in performance. The motor in all instances must be allowed to operate fast, at least 14,500 R.P.M. on the ground. With plenty of revs. and the right prop you just can't help but go fast with the model, provided of course you have a tank which will feed well at all speeds.

Best metal tanks have proven to be those which are tall and narrow so that the head of fuel does not change greatly throughout the flight. The tank should be kept about 1/2" thick, and as high and long as the model will permit. Keep the tank position as near the centre line of the jet as possible. A tank which is inside the flight circle from the jet will give a rich mixture as centrifugal force comes on, and the reverse will happen if the tank is on the outside of the jet. Run lean in the air. For those who are fortunate enough to possess a "Walker Regulator," tank troubles are a thing of the past.

We use a "Walker Regulator" and a rubber-ink sack from a fountain pen. Pumped up, one of these sacks have ample pressure without having to resort to plates and rubber bands to pressurise it. To enclose the sack inside a small rubber balloon is desirable, in case of a burst sack.

The regulator must be in line with the jet, and is rather critical in this respect. Clean, well filtered fuel is a "must" when using regulators.

Finally lots of practice on the field, and attention to small details in the model, and equipment, together with an enthusiastic assistant who thoroughly understands the procedure is certain to reap the reward of high speeds.

Don't forget to think of the safety of interested on-lookers.

If this article assists in any way any speed enthusiast to get better results I will feel I have achieved something for the HOBBY.

—IRA PEPPERELL.

★ An easily built Aerocar which is capable of quite high speeds.

The Hurricar

★ ★ ★ ★

Suitable for any 1 to 3.5 c.c. motors

Here is something a little different for the windy or wet afternoon when model flying is not possible, or a model for the chaps who are not interested in aircraft.

The "Hurricar" is unusual, but practical, a model which can be built up with very few tools, and by a modeller with limited ability, yet its performance will surprise you.

A tractor airscrew (propeller) — not a pusher — was used mainly because this type of propeller can be obtained from most model shops, whereas a pusher propeller would have to be home-carved.

First scale up the plan to full size in the following manner. Connect up the grid lines around the plan so that it is covered with small squares. These squares represent a square inch on the full size "Hurricar." Draw up a grid of inch squares on a sheet of plain paper, and transfer a full size drawing onto this, using the grids as reference. For an additional check a scale is shown on the bottom of the plan.

From your full size plan you can ascertain the sizes of the wood necessary for the various components. If preferred hard sheet balsa can be used for the portion of

the nacelle (body) below the motor centre line shown on plan.

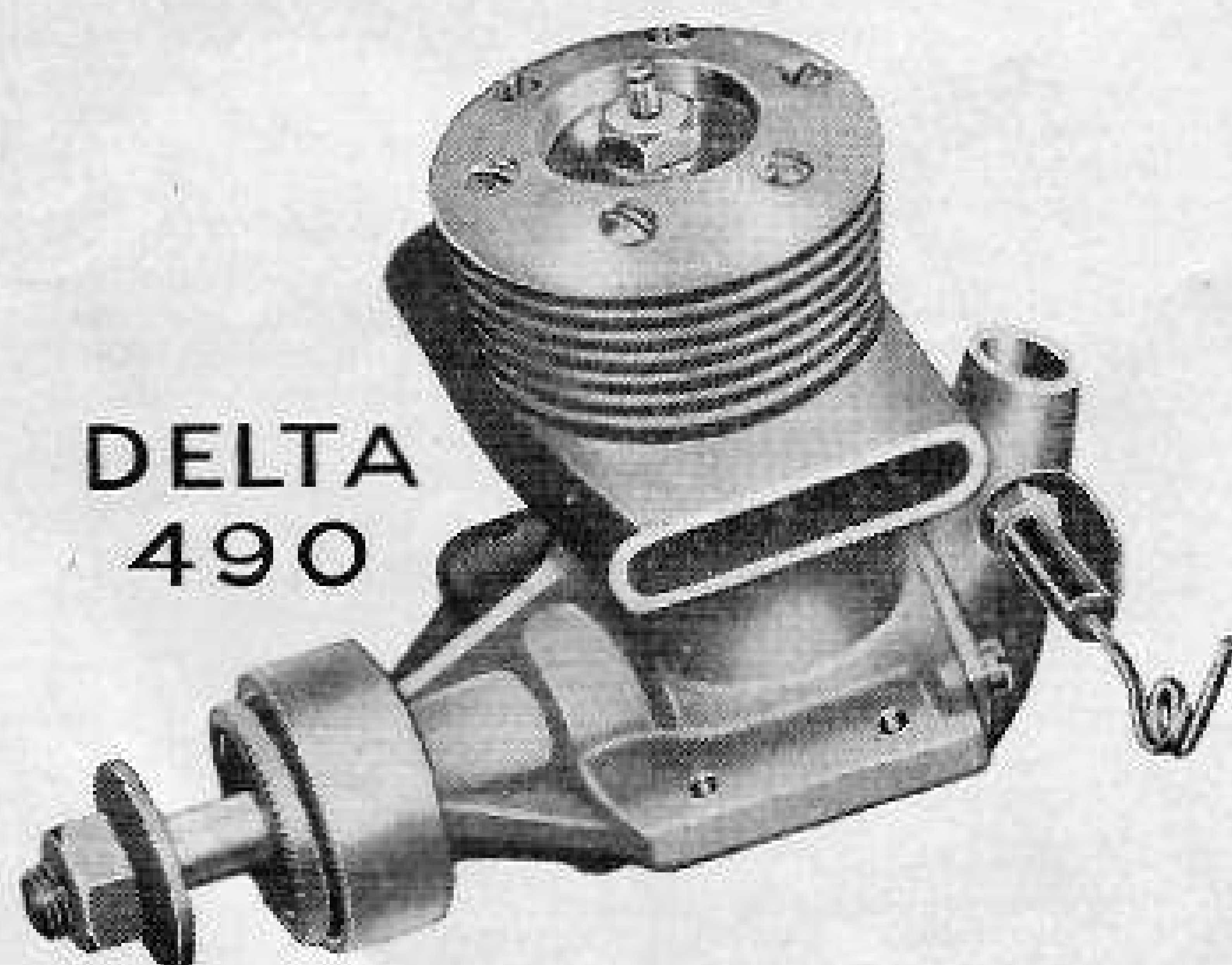
Construction

Nacelle (Body).—If the nacelle is to be carved from solid blocks they must be able to be separated along the motor line, so that internal construction, and hollowing may be carried out. Mark out the side shape onto the blocks, curve to this shape, then to top shape. Carefully cut the front cowling from the bottom block. Hollow out cowling, and the lower nacelle block until the wall thickness is approx. $\frac{1}{4}$ inch thick. Sandpaper the cowling inside and out, brush on two coats of dope, and set aside. Cut bulkhead section "A" from $\frac{1}{4}$ inch plywood, and cement into front of lower block as indicated on plan. Motor mounts are two strips of hardwood mounted in the solid top block, which is hollowed out in the front only enough to enable the motor to be mounted. Use ample cement on and around the motor mounts. The fuel tank can be made up from a cigarette tin, cut down to size, or a model aeroplane Team speed tank can be purchased from your model shop. Don't mount tank until "sponson-type" wheel fairing support is thoroughly cemented to bottom of nacelle.

(Concluded on following page)

New Motor Preview

★ A New Australian Produced Motor with MANY Novel Features



The Delta 490, the latest motor to appear on the Australian market, was designed by Bill Evans—editor of Model Hobbies—and developed in conjunction with Alan McCulloch, who has been responsible for several motors produced in Australia, such as the Gee Bee Red Special, and various parts of most Gee Bee motors. This has given him some considerable experience in model motor design and production, which coupled with his experience in the engineering field meant a lot of "know how" could be put into the "Delta" so as to produce a "hot" motor at a comparatively low price.

Quantity production is being handled by a small engineering firm, whose output should be sufficient to satisfy demand.

SPECIFICATIONS.

Bore 18.5 mm. Stroke 18 mm. Capacity 4.836 c.c. Weight 7 ounces. Compression Ratio 9.5 : 1. Mounting Beam. Recommended Airscrew F/F 10 x 6. Stunt 9 x 6. Speed 7 x 9. T/S 9 x 7. Cylinder, S14, hardened, ground, honed, liner. Porting. Exhaust four ports. Bypass eight $\frac{1}{8}$ " channels. Crank case/Cylinder, casting Hydinium. Head, held by six screws. Piston, conical deflector, no gudgeon, ball joint fitting. Connecting Rod, Steel, brass bushing. Crankshaft, nickel, chrome. Crankshaft Bearing, Two ball races on racing model. Cast iron on standard model. Induction valve, rotary disc. Special Features. Downdraft carburettor. Long mounting legs. Starting, very good using standard fuel. Necessary to keep head gaskets in good condition as motor proves tricky if gasket is compressed too far, increasing compression.

Manufacturers, Model Aircraft Industries, S.A.

Remarks.—Prototype motors were tested mostly in Team Speed models, and results indicated that power output was equal to other 5 c.c. motors in current use. Overall dimensions are small and construction rugged.

Model Speed CARS

"The Hurricar"

Building Instructions continued from previous page

Sponsons (wheel fairing support).—This wing like component is carved from hard 1 inch sheet balsa wood. Care must be taken to see that shape is accurate. When finished mount in nacelle, using several pins, and coats of cement. After cement is quite dry apply a "fillet" of plastic wood between sides of nacelle and "sponsons."

Wheel Spats.—Plan shows details of "spats," which must be made, and fitted to the sponsons accurately. Drive several pins through 1/2 inch centre of "spat" "sandwich," and apply several coats of cement, then plastic wood fillet so that this fixing is as secure as possible.

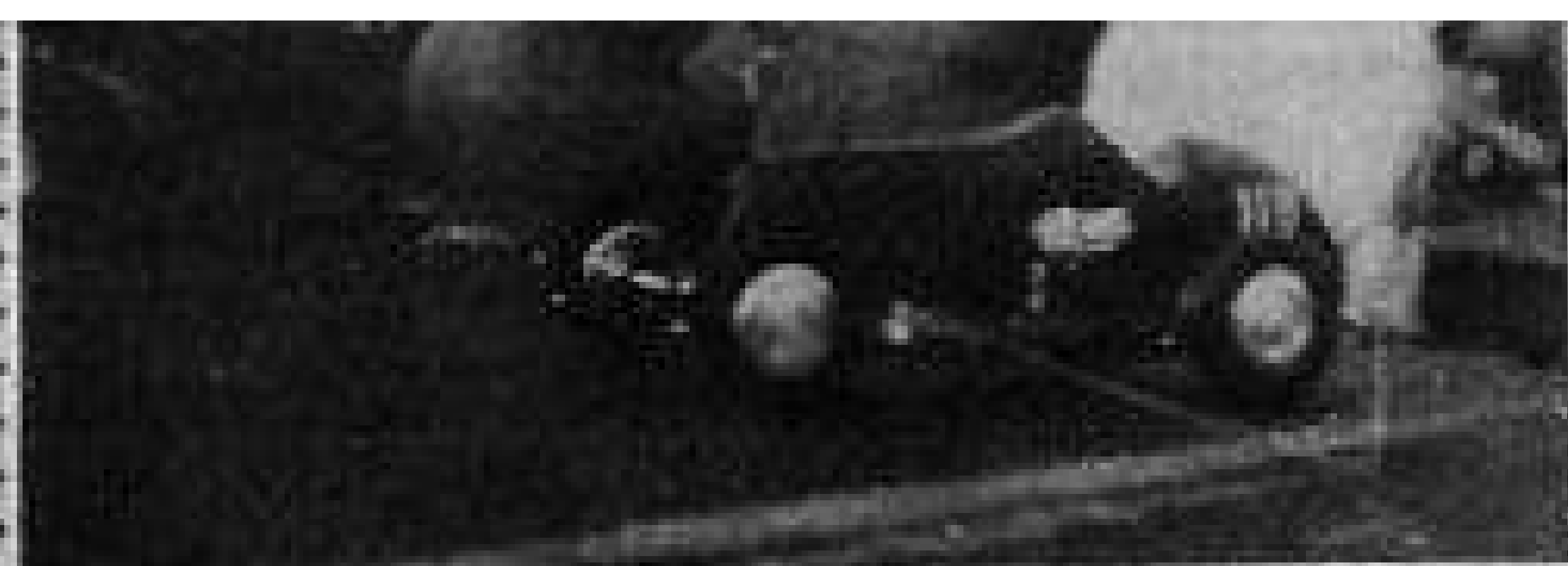
Wheels.—Many types of wheels are available, and the choice is left to you. Visit your local model shop and choose those that appeal. Two inches diameter for the front, and 1 1/2 inches for the rear. Make sure that the wheels have reasonable hubs. Axle detail is explained on plan. Threaded wire is suggested so that the retaining washer will not pull off axle. A few cuts in the axle with a hack saw will do the job. Be sure that the soldering is done thoroughly. In addition to the washers shown soldered on the outside of each axle, washers must be placed on axles inside the spats so as to keep the wheels away from the sides.

Assembly.—When all components have been completed and assembled, give model a thorough sandpapering first with medium grade paper, then finishing with 00. Apply several coats of model aircraft dope, sandpaper between coats, then finish off with a bright colour scheme of fuel-proof enamel.

Running cable attachment detail is shown on plan. Care must be taken to see that this fixture is safe.

Use 18-thousands of an inch thick piano wire for running cable (around 26 gauge). Use heavier steel wire for the actual attachments. The centre stake must also be given some consideration, for to see the "Hurricar" come adrift, or quickly wind itself around the centre pole would provide very little fun for its proud builder. An old ball race forced over a suitable sized piece of iron piping (which is driven into the ground) and a band of fairly heavy sheet metal bolted around the ball race provide an ideal arrangement. The running cable is in turn fixed to the metal band.

The actual shape and design of this type of car is almost unlimited so after the "Hurricar" you can perhaps dream up some even more weird automobiles.



C. Ballem's, Dooling Arrow car.



J. Cozens' semi-scale cars.



Tempest/Meteor car, of Mr. Stanley

THE CARS shown in these photos were competing in events being held at the Como Park Track, Victoria. Similar tracks are operating in N.S.W. and Queensland. Model car enthusiasts can obtain details of clubs from addresses shown below.....



McCoy/McCoy cars, of T. Connel.



Mr. Irving's semi-scale car.



Meteor/Meteor car, of Jim Flynn

QUEENSLAND MODEL RACE CAR CLUB:

Secretary: Mr. H. Gill, 71 Vulture Street, West End, Brisbane.

VICTORIA—RIVERSIDE MINIATURE CAR CLUB:

Secretary: J. Flynn, 19 Lord Street, Carnegie, S.E. 9, Victoria.

VICTORIAN MODEL RACE CAR CLUB:

Secretary: B. M. Cozens, 16 Darling Street, South Yarra, S.E. 1, Victoria.

NEW SOUTH WALES—MINIATURE RACE CAR ASSOCIATION OF AUSTRALIA:

Secretary: H. W. Ferguson, 26 Deakin Street, Auburn, N.S.W.



Line up of power models at the first Australian Nationals Championships held in Sydney in 1938. In the foreground are Jack Black, Boyd Felstead, Bill Evans.

1953 National Championships

★ DETAILS OF ARRANGEMENTS AND EVENTS

★ RESUME OF 1952 NATIONALS

LAST YEAR'S NATIONAL RESULTS AND COMMENTS ON PERFORMANCES

Although over six months have elapsed since these contests were flown, a brief analysis of performances recorded, and the equipment used may be of interest to those of you who are interested in competition flying.

Last year's "Nationals" were conducted by the M.A.A. of N.S.W. on the Camden Aerodrome — about 40 miles from Sydney — and the emphasis was on the gathering together under one roof the greatest possible cross section of Australian Aeromodellers, who nattered, grumbled, praised, slept a little, and at times flew model aircraft.

Unlike previous "Nationals" no attempt was made to cater for the public, and instead of relying on a paying audience to cover costs of the show, the actual competitors — and their friends — who camped on the aerodrome financed the "Nationals" with their billeting fees, which was quite a successful arrangement.

The outstanding event of the whole show was undoubtedly the Class "B" Team Speed races, and from all reports this type of model will be the highlight again this year. Class "A" Team Speed also was quite successful and provided some exciting racing. In these events the E.D. 246 was certainly outstanding.

Free Flight performances — with the exception of Class I — and entries were down on the previous year's contests. The free flight power model needs a boost, but the popularity of these models is governed a great deal by the availability of flying fields, and suitable spaces for the free fliers are becoming scarcer daily for the city modellers.

Entries and performances in Controline Stunt were good, but here again is a contest that attracts only the few experts, and the inclusion of the Controline Payload event in this year's "Nationals" may be a move in the right direction to have a contest in which the personal skill of the flyer is not "all important." No criticism is intended of the contest — such as stunt — where the personal ability of the flyer is the winning factor, but we do need contests in which everyone can compete and have a reasonable chance of winning, to attract those modellers who have not the time, money, or perhaps the ability to become an expert, in addition to the "Expert

Type" contest. Perhaps Combat flying or Scrambles could be added?

Speed flying was generally disappointing, and the speeds recorded were mostly lower than in Adelaide. The hard tarmac was not appreciated as a flying surface for the speed jobs.

Let's learn from mistakes made in previous years, and make the next National Championships, scheduled to be held in Melbourne, beginning on the 27th December, 1952, the best ever.

If you can make the trip, be sure you do!

RESULTS OF 5th AUSTRALIAN MODEL AEROPLANE NATIONAL CHAMPIONSHIPS

MOTOR CLASSES—

Class	Class
I — 000 - 1.5 c.c.	V — 5.001 - 8.5 c.c.
II — 1.501 - 2.5 c.c.	VI — 8.501 - 11.5 c.c.
III — 2.501 - 3.5 c.c.	VII — Resonant Jet.
IV — 3.501 - 5.00 c.c.	

Event 1.

Class "A" TEAM SPEED, for Class I and II Motors—

1st—J. Cook (Vic.), Elfin 149, 8 x 6 P.A.W., Original, 55-60 m.p.h.

*2nd—R. Meadmore (Vic.), E.D. 246, 9 x 7 P.A.W., Wolverine, 55 m.p.h.

*2nd—J. Leighton (N.S.W.),
* Tie.

Event 2.

Class "B" TEAM SPEED, for Class III and IV Motors—

1st—M. Tyrrell (Vic.), Fox 29, 9 x 6 P.A.W., Original, 60-65 m.p.h., 30 laps.

2nd—H. H. Munro (Vic.), Amco BB, 9 x 8 P.A.W., Lapmaster, 60-65 m.p.h., 30 laps.

3rd—H. Beech (N.S.W.), Veco 29, Veco, Original, 80 m.p.h.

Event 3.

FLYING SCALE CONTROLINE—

1st—A. Wild (N.S.W.), Atwood T., D.H. Chipmunk.

2nd—A. Williams (N.S.W.), At. Go Devil, R.W.D.S. Polish Trainer.

3rd—P. Sandford (N.S.W.), At. Go Devil, Grumman Hellcat.

Event 4.

Class I Speed—

1st—D. Simpson (N.S.W.), Elfin 149, 61 x 9 own, Original, 78.9 m.p.h.

2nd—W. Norman (N.S.W.), Elfin 149, 7 x 6 P.A.W., Original, 70.04 m.p.h.

3rd—H. Munro (Vic.), Elfin 149, 6 x 10 P.A.W., Original, 68.2 m.p.h.

(Continued on page 30)

FOR OFFICE USE ONLY

Date Received.....
Total Entry Fee Received.....
Contest No.....

OFFICIAL ENTRY FORM

6th Australian Model Aircraft Championships

Conducted by the VICTORIAN MODEL AERONAUTICAL ASSOCIATION under the sanction
of the MODEL AERONAUTICAL ASSOCIATION OF AUSTRALIA.
Open to all Aeromodellers in Australia and Aeromodellers from Overseas Countries.

EVENTS

- | | |
|---|---|
| Event 1—Open Indoor | Event 13—Junior Stunt |
| Event 2—Open Junior Rubber | Event 14—Senior Stunt |
| Event 3—Wakefield | Event 15—Class I and II Combined Speed |
| Event 4—Flying Scale (Rubber) | Event 16—Class III Speed |
| Flying Scale (Powered) | Event 17—Class IV Speed |
| Event 5—Class I Power Ratio. | Event 18—Class V and VI Speed |
| Event 6—Class II and III Combined Power Ratio | Event 19—Class VII Speed (Jet) |
| Event 7—Class IV, V and VI Combined Power Ratio | Event 20—Control Line Flying Scale |
| Event 8—Radio Control | Event 21—Control Line Payload |
| Event 9—One Hour Power Scramble | Event 22—"A" Team Speed |
| Event 10—Chuck Glider | Event 23—"B" Team Speed |
| Event 11—Class A2 Nordic Glider | Event 24—"B" Team Speed: Australian Championships |
| Event 12—Jetex Powered Glider | (Open to heat winners from each State) |

Mark out those Events in which you DO NOT intend to compete.

CLOSING DATE for Entries — 30th NOVEMBER, 1952.

ENTRY FEE — 2/6 Juniors and 5/- Seniors (M.A.A.A. Members), 15/- Non-Members — must accompany this Form or Entry will NOT be accepted. This single fee covers entry to any or all events.

LATE ENTRIES (post-marked later than 30th November) will only be accepted if accompanied by a late fee of 10/- per Event Seniors, 5/- per Event Juniors. For the purpose of this contest, "Junior" will be classified as being under the age of sixteen (16) years.

Surname..... Christian Names.....

Address..... State.....

Club (if any)..... Reg. No.....

I,..... do hereby declare
that the model(s) to be flown by me in the above contest are made by me. I do also declare
that I shall abide by the Contest Director's decision on any controversial point.

.....
(Signature of Entrant)

NUMBER OF RESERVATIONS FOR ACCOMMODATION AT £7/10/- PER HEAD -
(Children under 6 years, accommodation free)

Fill in accurately and Post to:—

ROBERT A. ROSE,
Hon. General Secretary,
6th Australian Model Aircraft Championships,
Post Office, LAVERTON, VICTORIA.

N.B.—All Cheques, Postal Notes and Money Orders are to be made payable to the VICTORIAN MODEL AERONAUTICAL ASSOCIATION.

Non-members of the MODEL AERONAUTICAL ASSOCIATION OF AUSTRALIA (with the exception of overseas contestants) will be required to pay an additional 5/6 to the total amount of Entry Fee.

All models must carry their State Registration Number. Non-members shall be given a number on receipt of their Entry Form.

Contestants desiring to lodge a protest must do so within one hour of the incident occurring. The protest must be made in writing and handed to the Contest Director.

An event will not take place unless a minimum number of five entries are received for that event. Contestants entered for events in which the minimum number of entries are not received will be notified by post as soon as possible after the closing date of entries.

All Power Ratio models must conform to a power loading of 8 ozs. per cubic centimetre.

A "Tinplate" Layout

by GEOFF. STORER

The photographs on these pages are of a layout which should be of interest to tinplaters, but probably not to "scale modellers." It is comprised entirely of Hornby, Trix, Graham Farish, and Marklin locomotives and rolling stock, all running on Hornby Dublo track, subject to certain limitations, and minor alterations, which will be mentioned later.

It all started about three and a half years ago with a secondhand Hornby 00 clockwork "Sir Nigel Crisley," two articulated passenger coaches, and three goods vans.

The locomotive met with an unfortunate accident the very first time it was used, a pin came out of the piston,

"Ocean Mail" van, and a baggage car to bring up the rear, the other of five Pullmans, one of which has been altered with the help of a Hambling's Litho sheet—into a Brake Third.

The first Train is drawn by the Marklin Pacific on an entirely independent 16 volt circuit, the second by one of the Hornby Pacifics. There is also a Hornby L.M.S. Train of seven coaches, and a goods train of 19 vans, drawn by the Marklin 2-10-0, which operates quite satisfactorily on the Hornby 12 volt control—except that it cannot be automatically reversed.

Finally there are some fifteen or so additional goods vans which can be made up into another train, or used for shunting around the five loops and branch lines, which can be seen in PHOTO No. 1.

The track is designed for continuous running, and the control panel can be left unattended.

As can be seen by Photo No. 1 there is an outside circuit, which is entirely independent from the inside lines. This is necessary because it is a 16 volt AC circuit for the Marklin Pacific, and also because the Farish Pullmans will not negotiate Hornby points even if there was a crossover. The transformer used on this circuit has an output of 3.5 amps so it is possible to use the two Marklins double heading a long Pullman Train. I have had them pulling ten coaches.

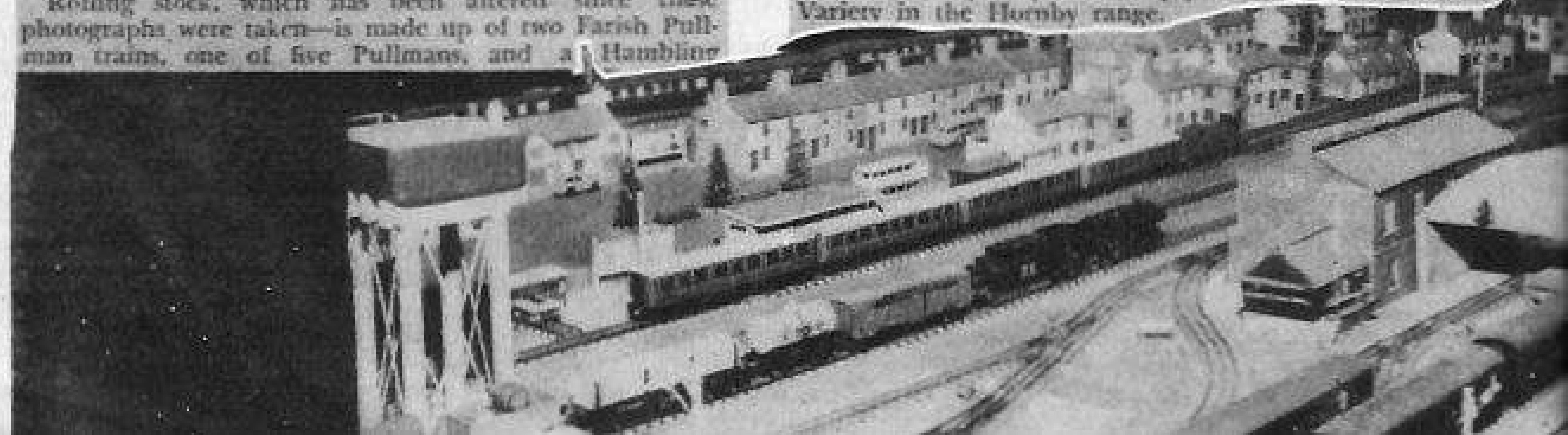
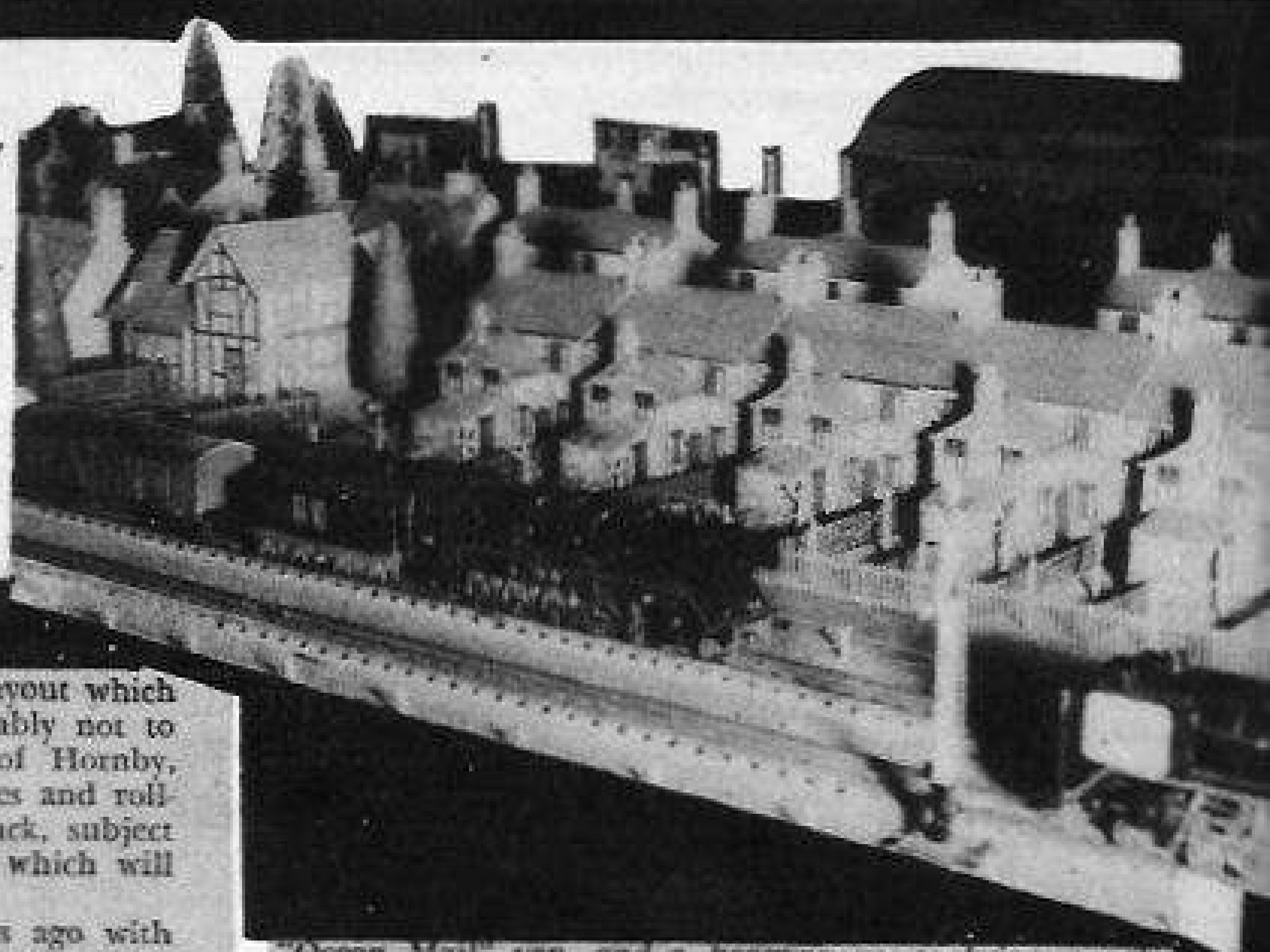
The inside circuits and the various loops are operated from two separate controls, which means that while a train is running around the circuit, another engine can be shunting on the loops. It is more interesting to run a train partly in the circuit, and partly on the loops, which is simply done by setting the two controls to the same position.

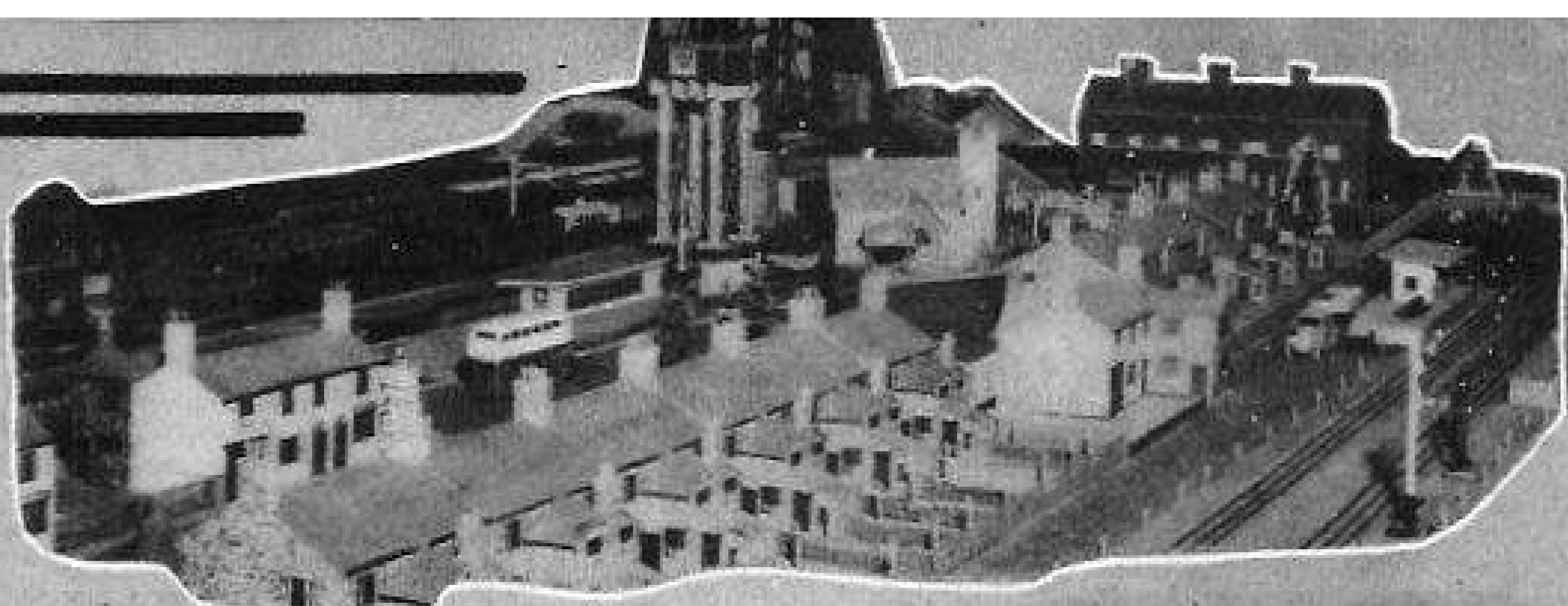
My reason for so freely mixing Hornby, Farish, and Marklin was purely and simply because of the lack of Variety in the Hornby range.

too much force was used in replacing it, which resulted in a broken driving wheel. This was likely to take several months to be repaired so a Trix 0-4-0 Tank—also second-hand—was acquired together with some Hornby track, and the layout was underway.

The Trix and Hornby clockwork have long since disappeared, and the engines now in use are three Duchesses of Atholl—two with their names changed to Montrose and Buccleugh—one Sir Nigel Crisley, and two Hornby Tank Locos, also a Marklin 4-6-2 and a 2-10-0 which do most of the running.

Rolling stock, which has been altered since these photographs were taken—is made up of two Farish Pullman trains, one of five Pullmans, and a Hambling





There is no uniformity between these three makes, so intermingling of types presented some problems. For example, the Farish coaches are too long for the Hornby curves, therefore, rather than tear up all the Hornby track I fitted a steel washer about 1/32" thick above the bogies, which is just enough clearance to negotiate this

track. All of the Farish couplings have been changed in favour of Hornby type which has had the effect of pulling the coaches closer together, and thus improving the general appearance. The addition of Hamblin's corridor connections to all passenger coaches supplied the finish.

TAXI TRUCKS	 ANA LA 0461	Shell OIL
N.S.W.G.R. TIMETABLE	S.A.R. TIMETABLE	Model RAIL

SOME TOPICAL POSTERS TO ADD TO YOUR LAYOUT.

Carefully cut out the six posters and cement direct to your station hoardings, or to card which can then be fixed in desired positions.

Photographic tinting colours are the best for colouring these posters as this type of colouring is transparent and lies the work rather than paints it.

In subsequent issue of "Model Hobbies" we will publish further posters, newspaper leaders, and other forms of model railway decoration.

Shell OIL	Model RAIL	TAXI TRUCKS
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TAXI TRUCKS	 ANA LA 0461
N.S.W.G.R. TIMETABLE	S.A.R. TIMETABLE

Convert a Graham Farish Pullman to a 3rd Class Brake

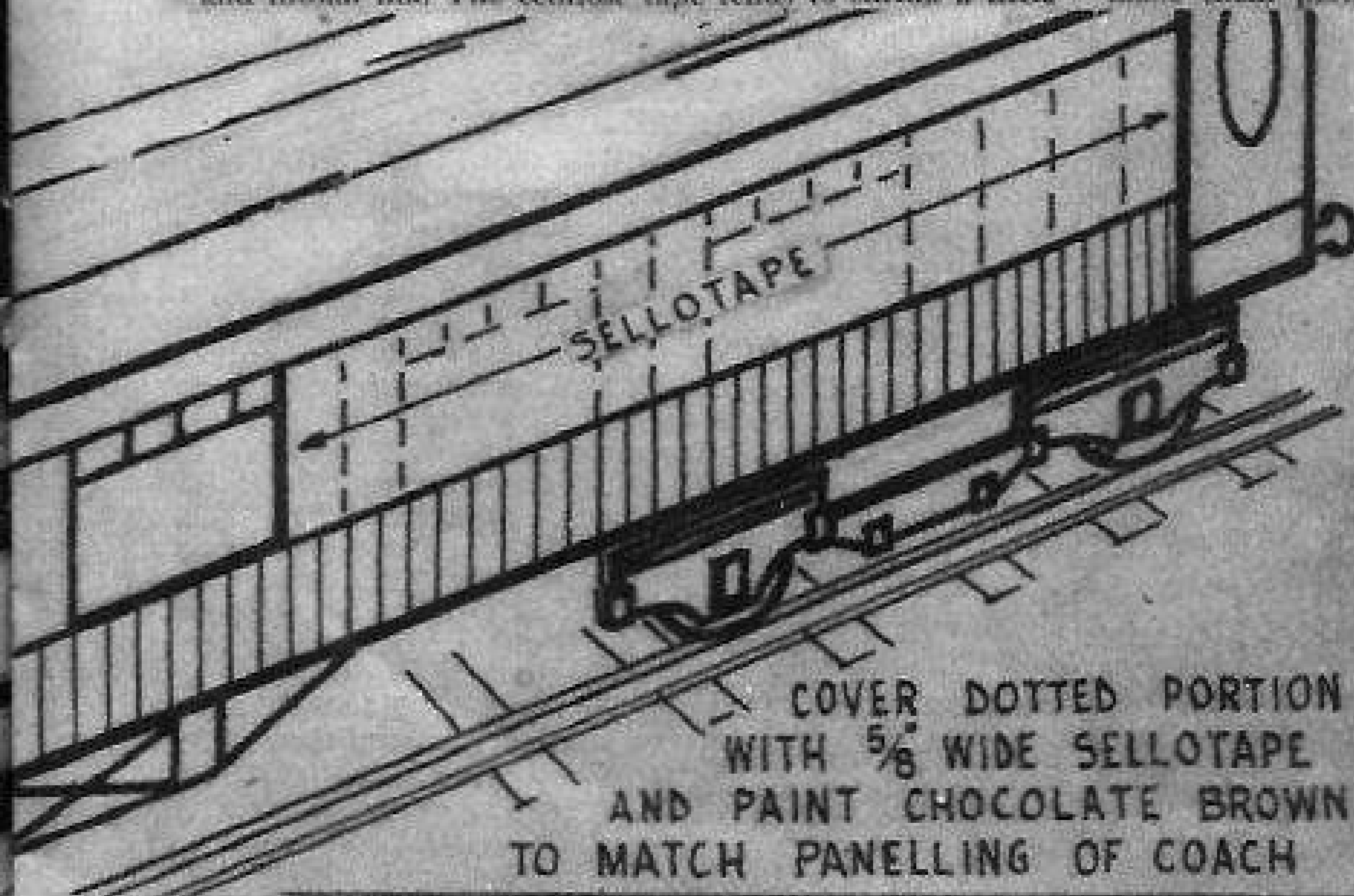
HOW WOULD A 3rd CLASS BRAKE LOOK ON THAT GRAHAM FARISH PULLMAN?

You can quickly, and easily convert one of your Pullman coaches.

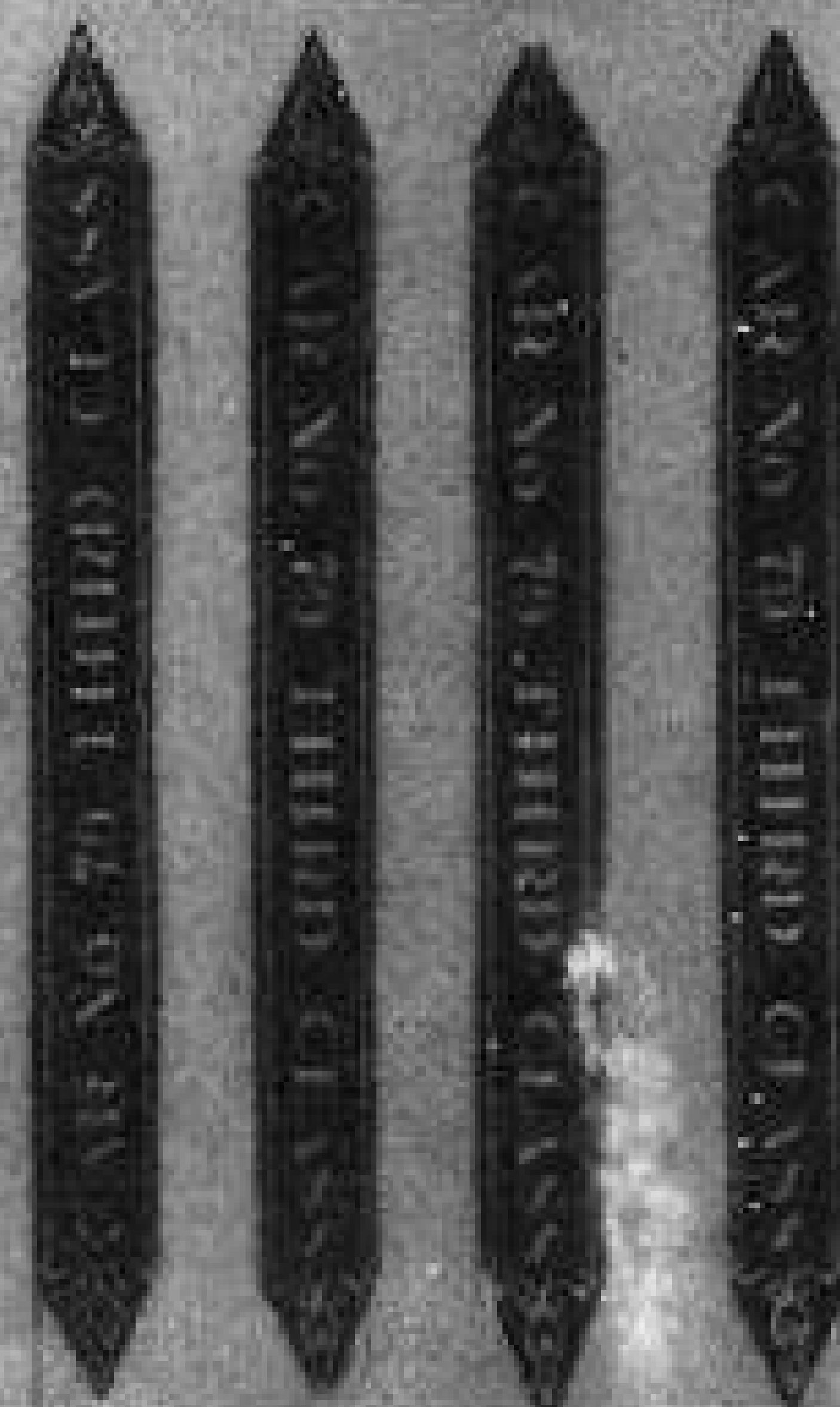
Study the drawing, which shows just what to do. A strip of wide Sellotape—or similar cellulose tape—is carefully applied over the area indicated, and lacquered with a matching chocolate brown lacquer. Allow to dry thoroughly then mark on doors etc. with a ruling pen and indian ink. The cellulose tape tends to shrink a little

with changes in humidity and temperature, but at the worst it will only leave a small strip at the ends which can be touched up with lacquer.

In the accompanying drawing are given some printed nameplates, which are to be stuck over the existing name of the coach. The white linings in the printed nameplate can be coloured yellow with photographic tinting colours so as to match the colouring of the yellow trim. A coat of clear lacquer over the paper nameplate will make them permanent part of the coach.



COVER DOTTED PORTION
WITH 5/8" WIDE SELLOTAPE
AND PAINT CHOCOLATE BROWN
TO MATCH PANELLING OF COACH



"Tinplate Layout"

(Continued from previous page)

ing touches, and also a slight difficulty. Once again the Hornby curve is too sharp, and these connections slip out of place on an S bend. Consequently there must be at least a half straight between each curve which changes direction. This is the reason for the half straight in the crossover in the left foreground (No. 1) and also why no passenger trains run on the branch line in the centre alongside the water tower (No. 1).

The use of the Marklin locomotives with their larger flanges meant some rough running over the points, until the flanges were filed down slightly and at the same time the frog rails on the points were deepened. After this these engines run over the points as smoothly as the Hornby type, which isn't saying much.

Of the buildings which supply the main scenic effects, a few have been constructed rather inexpertly by me from balsawood, but the rows of houses, which are most evident in all pictures were made from Hamblings "Biltes" building sheets. Apart from the corridor connections, and the two Hambling coaches previously mentioned, these sheets are the only pieces, which had to be direct from England. For some strange reason they don't appear to be available locally. In my opinion no layout that is even remotely English in character is complete without a row of these houses, and there must be surely, a ready market for them here.

Like all layouts this one is, of course, never finished, there is always some small additions, which become necessary. Future plans include scenic effects for backdrops, when I can find some one capable of painting them. I should also like to improve the hill, which at present is made of canvas — with the aid of some plaster of Paris. Structural improvements include a Brookdale Station — built from a Farish kit — at present under construction.

I doubt that if I shall ever go to the trouble now of adding a higher level for some up and down hill running, although they are greatly favoured by the authors of model railway books on layouts.

My greatest sin, when putting down this layout, was not in planning it on paper first. It was just put down and added to here, and there, altered from time to time until there does not appear to be any more room left, but it has provided me with a lot of pleasure, which, after all, is the reason for the hobby.

TINPLATE OR HOME CONSTRUCTION?

SCALE OR COMMERCIAL COMPONENTS?

WHAT ARE YOUR IDEAS ON THE MERITS OF VARIOUS PREFERENCES?

The article, "A Tinplate Layout," is one man's idea of how to "play trains"; very likely his ideas are quite different to yours. Perhaps you consider yourself a "railway modeller," not a "model railroader" for actually the chap who prefers to scale model his own equipment comes much closer to the first title, whereas the enthusiast who cares not the origin of his equipment, but desires to operate a model railroad must be granted the other. Should you be one of those more rare cases who model their own equipment and actually get around to operating it in lifelike surroundings, then certainly you can claim both to be a "model railroader" and a "railway modeller."

So very often do we come across the chap who spends a great deal of his time criticising the "tinplate men," and appears to achieve very little himself other than a few half-baked self-built models acquired over a period of years, many of us are inclined to favour the "tinplater" who uses commercial equipment, for he does appear to get a layout running more often than the "scale railway modeller."

Perhaps you have some very definite ideas, for or against the various aspects of model railways, or perhaps just some casual ideas on the subject. Whichever it may be Model Hobbies will be pleased to have your opinions so that we may pass them onto our readers through these columns. The idea of such opinions is not designed to criticise any section of the model railway fraternity, but that such a discussion can be both interesting and informative, and can bring out the better points of all sides so that the newcomer can judge for himself just how to begin, and the seasoned enthusiast can pick ideas to improve his own activities.

So chaps drag out the pen and paper, and let us have your opinions and ideas.

CONTRIBUTIONS FOR MODEL HOBBIES ON ANY MODEL RAILWAY SUBJECT WILL BE MOST WELCOME.

MODEL RAILWAYS SPECIAL OFFER

of Gauge O Electric and Clockwork Sets.

GOLD CHIEF Electric Train Set at far below today's list price.

These splendid models are available at this special price only until present stocks are exhausted.

The handsome **GOLD CHIEF** is a good model of Australia's famous "Spirit of Progress," and comprises a 12-wheeled engine, an 8-wheeled tender and two 8-wheeled coaches, complete with railway system, transformer and speed controller. Reversing model. The complete set, post free to any address in Australia, at the amazing price of . . .

£14/7/1

Or, if you prefer a clockwork model, send for the **SILVER CHIEF**. This set (unlike the Gold Chief, which is blue with gold parallel lines along the whole train) is in polished aluminium with blue parallel lines along the whole train, also comprises 20-wheeled engine and tender, two 8-wheel bogie carriages and railway system. Post free to any address in Australia . . .

£5/7/2

Both the above trains are equipped with brass buffers and Hornby Automatic couplers, and can thus be used with any existing Hornby equipment. Windows are cut out, not merely painted on like Hornby train cars. Send your order without delay. Neither of these offers can be repeated when existing stocks are exhausted.

**THE MEADMORE MODEL
ENGINEERING Co.**

163-165 EXHIBITION STREET, MELBOURNE
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OO ENTHUSIASTS,

We have the complete range of **GRAHAM FARISH** model railway: Locomotives, Rolling Stock, Track, etc.

George V Loco, £12/6/6; King Class Loco, £11/19/6; Prairie Tank Loco, £8/9/6; B.O.B. & Merchant Navy, £11; Wagon Lit Coaches, 61/3; Pullmans, 55/9; Vans and Wagons, 11/3, 13/6 and 15/3.

FOPMO FLEXIBLE TRACK: Two rail, 9/- per yard. Three rail, 11/3 per yard.

Send for list of model railway equipment.

We will dispatch any of the above airfreight or post free to any address in Australia.

AUSTRALIAN HOBBY CENTRE
132 Franklin Street, Adelaide, S.A.

CLASSIFIED ADS.

PEPPERELL "16" RACING GLOPUG ENGINE.—Design and characteristic similar to Dooling. £NZ 6/10/-, or would exchange for a new or little used ETA or McGoy "29" G. Vogtherr, Box 71, Hastings, New Zealand.

SELL — 65 **AEROMODELLERS** (Sept., 1945 to June, 1951), 7 AMH. (up to June, 1951). D. Andrews, 2 Eden Court, Burwood, E.13, Melbourne, Victoria.

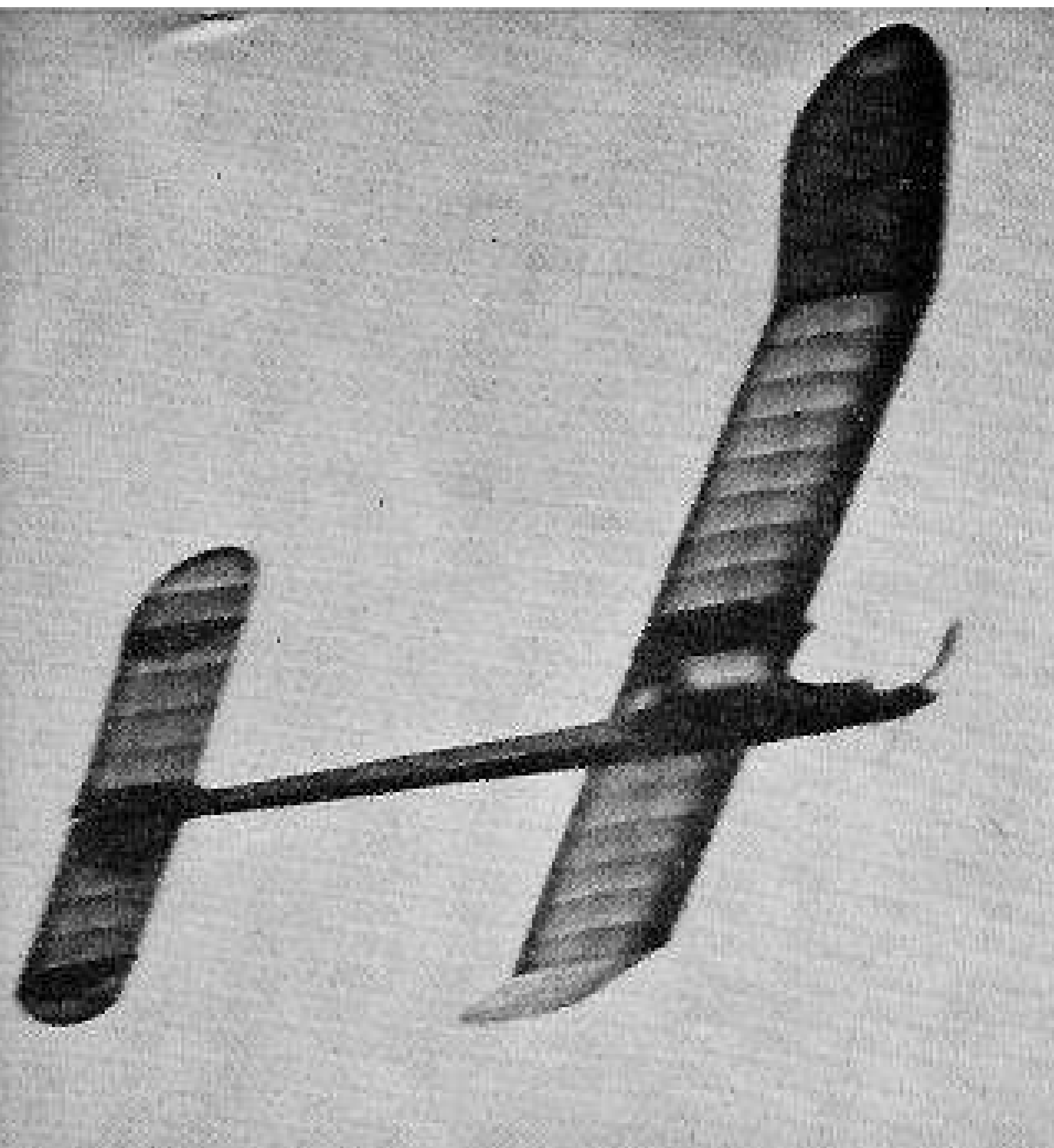
EXCHANGE — **AMCO 3.5 Diesel** (bench run $\frac{1}{2}$ hour) for Elfin 1.8 Diesel, or Arden (099 or 199) Glowplug Motor. Must be in new condition.

OFFERS — over £9 — for a brand new **AMCO Ball Bearing 3.5**. P. Lansley, Dunolly, Singleton, N.S.W.

FOR SALE — K. "Vulture" 5 c.c. Diesel (one hour's running). Very good condition. £4/10/- or near offer. Focke-Wulf scale-stunt model, £3/10/0. Boxcar Stunter, £2. Both models fitted for Vulture motor, and never flown. F. Henke, Mt. Pleasant, South Australia.

FOR SALE — Mills .75, £5; and E.D. Mk. IV, £6. Both only a few hours running and perfect condition.

—W. BRADTKE, Waterloo, S.A.



observations, was that the thrust line was the all important factor. Subsequently I built a larger Mallard with no downthrust at all. This model actually climbs in a spiral—it does not perform a series of elongated hoops. (It was with this model that I won the Victorian Jubilee Championships) and so when the "Sorcerer" came into being it was given left thrust to give a really fast spiral, and I used this speed to advantage by then applying upthrust to give a fast climb. This is MY method of obtaining the maximum climbing angle from a pylon job, without a horrid stall when the motor cuts. (Many no doubt will disagree!)

Now, more about the "Sorcerer," whose first few test flights actually astonished me! It's first full power flights the tail plane came adrift, causing the model to splash itself rather heavily, but the only harm done was torn tissue, so I decided that the model was capable of "taking it."

The following times were recorded, and are definitely correct. On it's first flight under reasonable trim the "Sorcerer" stayed "up there" for 178 seconds on a 10-second motor run. The D/T operated about 70 feet up! which meant that even a better ratio would have been achieved, had the D/T not come into operation. Second

The Sorcerer

FREE FLIGHTER

by Geoff Pentland

For Class I Motors (up to 1.5 c.c.)

The SORCERER is the outcome of quite a good deal of thought, and careful consideration of the Australian Free Flight Rules. Minimum power loading 8 ounces per c.c. of engine capacity. Model must R.O.C. Motor run/total flight time ratio method of timing. Minimum motor run 5 seconds.

Naturally enough the model is of the large variety. Unfortunately it is obvious in many cases model flyers are content to allow these large type models to spiral fast, resulting in very little gain in altitude. They do not anticipate a fabulous rate of climb from the large model, but also do not pay sufficient attention to the trim of the power flight, mainly hoping for thermal

flight resulted in a ratio of 10—much lower than the first owing to far too tight a spiral in the glide. Third flight from hand launch, was with a motor run of only 2½ seconds, but the model remained in the air for 1

(Continued on page 34)

A simple, but rugged model which has proven ability as a high performance contest job.

help in the glide. To build good models, and to rely on chance to such an extent seems futile, when with a little extra care in trimming would make a vast difference in overall performance.

I have found that many of these models would have a far higher rate-of-climb if allowed to climb straight, or in a very slight circle (My original Mallard was an example of this when powered with an Elfin 249, and had the recommended downthrust of 6°, but when turn was applied the rate of climb dropped noticeably). Results suggested that the outcome of rate-of-climb



PLANS OVERLEAF

$\frac{1}{8}$ " HARD SHEET WING
PLATFORM

$\frac{3}{16}$ " WING DOWELS

PYLON LAMINATED FROM
3 PIECES OF $\frac{1}{8}$ " SHEET MEDIUM
OUTSIDE GRAIN VERTICAL
INSIDE HORIZONTAL

$1\frac{1}{4}$ " SPINNER

$\frac{1}{2}$ " UPTHURST

BLOCK BALSA COWL

F1

F2

F3

F4

9"x4" PROPELLOR
RECOMMENDED

$1\frac{1}{2}$ " DIA
RUBBER
WHEEL

DIHEDRAL DIAGRAM

FUSELAGE

SQ HARD

$\frac{1}{16}$ "

ENGINE BEARERS $\frac{1}{4}$ " x $\frac{3}{8}$ " HARDWOOD

FUSELAGE PLA

2° SIDETHRUST

TAILPLANE

F3 - F4 TO DOTTED
LINE - $\frac{1}{8}$ " SHEET

WING

"SORCERER"

A 56" SPAN 1/2 A CONTEST MODEL
DESIGNED BY G.G. PENTLAND

DIHEDRAL BRACE - 2 OFF
1/4 HARD SHEET

MED. $\frac{3}{32}$ SHEET FIN.
GRAIN VERTICAL

REAR OF FUSELAGE
& TAILPLANE CONNECTED
BY 2" LENGTH OF
CORD KNOTTED
AT ENDS

RUBBER

13

HOOKS
FUSE
RUBBER

SIDES SHEETED WITH $\frac{3}{32}$ " MED SOFT

3/4" * 1/2" BACKBONE

MEET BOTTOM

F 5

HOLD U/C
WITH TINPLATE
CLIPS & WOODSCREWS

F1-3 1/8 PLY

3/4 SQ" HARDWOOD
GLUED TO
UNDERSIDE
OF TAIL FOR
LOCATION
PURPOSES

UNDERFINIS CUT FROM $\frac{3}{4}$ " SHEET

PYLON

CUT 2 $\frac{1}{2}$ UNDERSIZE
FOR C/S SHEETING

TAILPLANE RIB : 12 OFF $\frac{1}{16}$ SHEET

TAIL PLANE

WING RIBS 27 OFF 1/8 MEDIUM SHEET - CUT 3 TO DOTTED LINE FOR C/S SHEETING

NOTE: RIBS & FORMERS SHOWN FULLSIZE

TIP

PANEL

PAYLOAD Comes to Controline

Rules and News of the Weightlifting Contest in this Year's "Nats."

The next NATIONAL CHAMPIONSHIPS will incorporate an event for the bored spin dizzies, to rejuvenate their old enthusiasm, and, indeed, something interesting for the Freeflight bod not keen on the usual speed or stunt controline model, or the time and practice needed to reach the top in these events.

This new event is **CONTROLIN PAYLOAD**.

Early in 1949, the idea originated with a bored bunch of the Eastern Suburbs (Vic.) stunt enthusiasts who wanted something different that would not be as one-sided as was usual with the flying of the **STUNT ROUTINE**.

The suggestion of **PAYLOAD CONTROLIN** was greeted enthusiastically, and the number of competitors in the first contest far exceeded the dreams of the most optimistic of the originators. In fact the three events that have been held so far had more competitors than any of the free flight or controline contests held by the club. Ardent freeflight fans participated, and probably the design aspect—not the flying skill—is the thing that appeals to them. The yo-yo boys are keen, too, because of the difference, and less one sidedness of the **PAYLOAD CONTROLINER**.

Planes specifically designed for the job have won the three contests staged so far, and it's gratifying to see the payload design jobs ousting the regular stunt ships familiar in the first and second events.

The 1949 Contest was won by the well-known radio-control and stunt flyer Reg. Cooper. His winning ship was aptly christened "Atlas," and emulated the feats of its namesake in a big way—for its size. It featured a tri-cycle undercarriage and was of general stunter layout excepting that a hi-lift Grant wing section was used. Power was an E.D. Bee diesel.

As the results are ascertained on a ratio of payload lifted in ounces to motor displacement in cubic centimetres, Reg's 8-ounce payload with the 1 c.c. Bee gave him the winning ratio of 8. 1948 Junior "Nats" winner, Johnnie Conell, and myself tied for second place with a ratio each of 7. (Both lifted 72 ounces with a 10.6 c.c. Anderson Spitfire).

Ron Robertson took top honours in '50 with the standing record. His ratio was 18.4. The model was a 50 inch wingspan special powered with an ED MKIII. Weight lifted was 42 ounces. Second place was filled by Jimmy Fullarton, well-known free flight man, whose McCoy 19 powered Veco Squaw staggered off the ground with 56 ounces resulting in the ratio of 17.2. The most interesting plane in this contest was that belonging to Johnnie Brehaut who borrowed a Mills .75, and constructed a special job with Fowler type flaps. The flaps were most effective on take-off and folded up whilst in flight. They were operated by a trailing skid and springs. This little bomb lifted weight to earn the ratio of 13.3.

Heaviest payload lifted so far was with my Anderson Spitfire powered ship, which lumbered off after 3½ laps run with 8 pound 8 ounces ratio 12.7. All up weight was 11 pounds 13 ounces. The model was damaged somewhat on landing—or should I say "arriving." The structure and undercarriage just could not take it. So it can be seen that the big motors have NOT got this event "sewn-up" by any means. The ratio was not enough to place, and the flight was unofficial as the rules state that a maximum of two laps take-off run only allowed, however it was an interesting experiment to see just how much the big 60 could get off the ground.

Keith Ellis came out on top in the '51 show, with a ratio of 16. Ship was a special powered with a Mills .75 swinging a four-bladed propeller. Second came T. Tresize with a similar job. Ratio was 13. The Tim Ray-Norm Bell team gained third with a ratio of 12.

Rules have been modified and improved as experience suggested, and as they now stand the rules should prove satisfactory for the contest included in this year's **NATIONALS**.

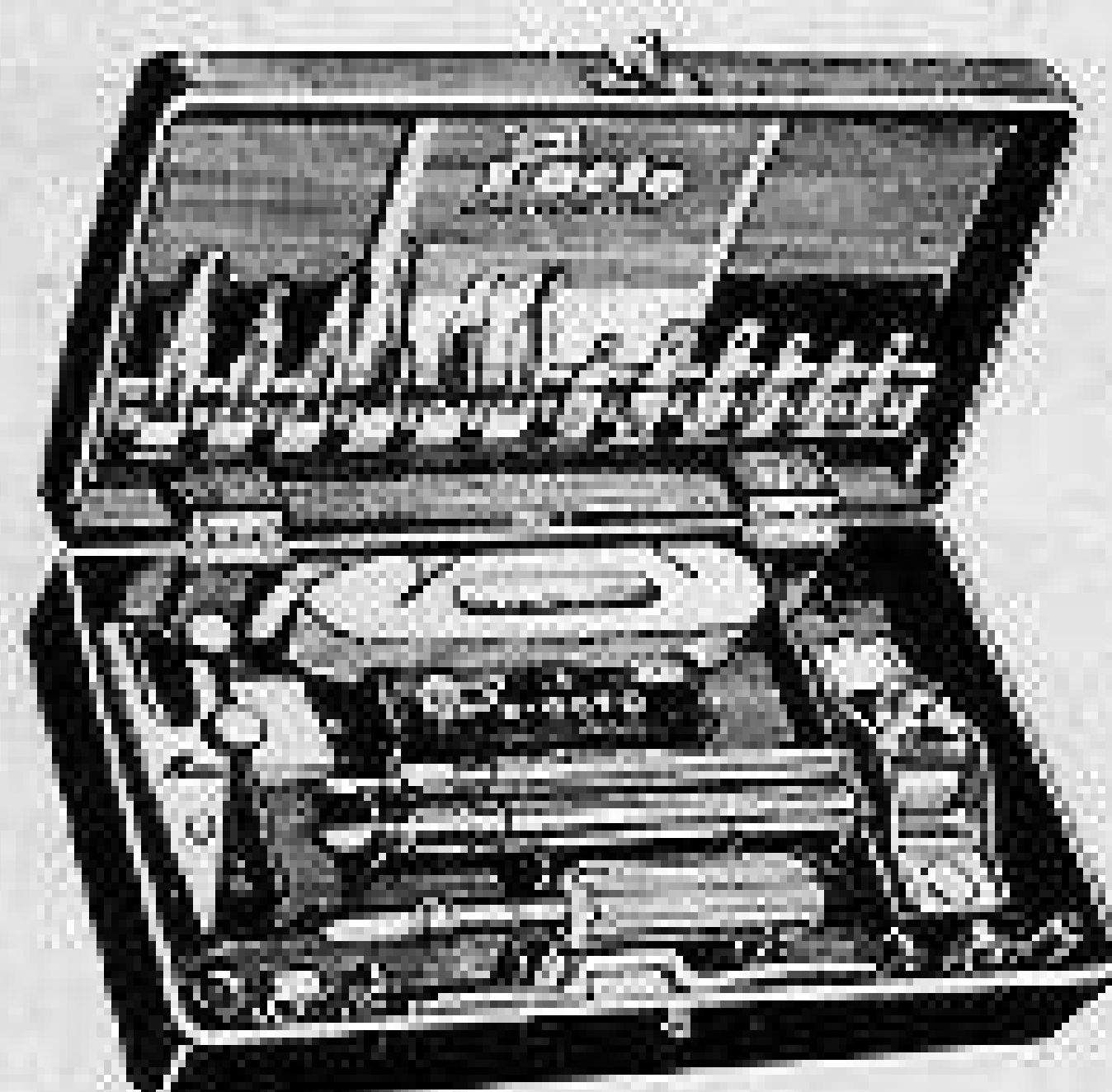
RULES FOR 1952 AND 1953 CONTROLIN PAYLOAD CONTEST

- (1) Steel lines are compulsory on all motors 2 c.c. and over, and must conform to current M.A.A. line length according to motor class, and have a minimum diameter 10 thousandths of an inch for motors up to class IV. Class IV and over to have minimum thickness of 15 thousandths. Under 2 c.c. may use cord lines, though steel is recommended. 1 c.c. time and under may fly on a minimum of 30 foot line length.
- (2) Each contestant must make one qualifying flight with a minimum payload of 4 ounces per c.c. of motor displacement. To save time the contestant may exceed this weight if desired.
- (3) On qualifying and official flights the model must take off within two laps, and fly, without touching the wheels on the ground, a minimum of six (6) laps.
- (4) All models are liable to a 20 G pull test, at the contest directors' discretion.
- (5) Dolly take-offs and drop-outs are permissible, but hand launching is definitely **NOT ALLOWED**.
- (6) The pilot must stay within a marked circle of 10 feet diameter.
- (7) Whipping **WILL NOT BE TOLERATED**.
- (8) After qualifying payload is added at contestant's discretion.
- (10) Internal storage of weights is desired, but they may be carried externally if approved by contest director.
- (10) The weight lifted on a flight conforming to rule 3 within three attempts—not including the qualifying-run will be regarded as the ultimate the aircraft is capable of lifting.
- (11) The winner will be judged on a ratio of the highest weight in ounces—according to rule 11—and the total displacement of motor/s used in cubic centimetres. The empty weight of the model nor the all-up weight shall not enter into the calculations.
- (12) In the event of a tie for first place, these models shall attempt to add weight to find an outright winner.
- (14) On qualifying, and official runs three minutes only will be allowed to get motor/s started.

Failure to get under way within three minutes constitutes an attempt. Two attempts constitute an official flight. Qualifying flight may be claimed as an official flight should contestant wish.

Well there it is fellows! Bung a control plate in that oversize free flighter, and your set (?), but don't forget to add a little strength to the ship's backbone, undercart, and attachments, etc., for you are sure going to need to, and how.

—MONTY TYRRELL.



x-acto MODELLING KITS

from the **HOBBY SHOP** 98 Gawler Pl.,
ADELAIDE

We were fortunate in receiving a stock of the famous American Knife and Tool Sets

In stock are Sets, Blades, Gouges, Routers

Set No. 86
£10/12/6

Set No. 62	£1/11/6	No. 1 Knife	7/8
Set No. 77	£2/17/6	No. 2 Knife	12/-
Set No. 78	£4/15/6	No. 5 Knife	16/9
Set No. 82	£3/15/9	Routers	Set of 5 for 10/-
Set No. 86	£10/12/6	Gouges	Set of 5 for 12/11

— THESE X-ACTO KITS ARE THE WORLD'S BEST —

MOTORS

Import Restrictions have caused shortages, but we can supply the following Motors:

JETEX 100	45/-	Frog 500 Glo	£6/5/-	Dart .5 Diesel	£5/19/11
JETEX 200	62/6	E.D. 2.46 Diesel	£7/7/6	Elfin 1.49 Diesel	£5/19/6
JETEX 350	90/-	E.D. 2 c.c. Comp. Sp.	£6/7/9	Elfin 2.49 Diesel	£7/6/6
		E.D. 3.46 Diesel	£7/5/-	ETA 19 Glo	£10/15/6
		Mills 1.3 Diesel	£7/12/6	AMCO 3.5 Glo	£10/8/6

But please order immediately. Stocks are good, but not unlimited.

"SUPER D" and "SUPER GLO" FUEL

By popular request we can now supply our fuel in ONE PINT CANS, specially packed for transmission by post. Our brew is an extra special mix, and really popular

PER PINT CAN 8/-, plus postage as follows:—

S.A., 2/9; W.A., Vic., Broken Hill, N.T., 4/5; N.S.W., Q'land., Tas., 5/6.

NOTE.—No airfreight despatch possible.

Control Line Wire—.010" and .012" diam. per 150 ft. coil, 4/11 each; .016" x 150 ft. for 5/6.

Lacquers—Fuel proof, 2 oz. jars 2/-, in the following colours: Red, Blue, Black, White, Clear, Yellow, Green.

Quick Drying Lacquer Dope—2 oz. jars 2/-: Red, Light or Dark Blue, Grey, Orange, Silver, Black, Light or Dark Green, White, Yellow, Brown.

Control Line Reels—Attractive new design, 16/11 (post 7d.).

NEW PRICE LIST—Send 3d. stamp for our latest list featuring details of new stocks: Canopies, Aluminium Sheet, Fuel Line, Balsa Panels, etc.

Contact us for all your Modelling Requisites

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CLUB NEWS

Jack Finneran one of Australia's model speed flyers. Models are

Boeing 29
60 powered.
Jack's best speed
to date

128 m.p.h.

with .29 job.

Jack is most

certainly an

accomplished

modeller

and is

one of the "old hands" in Australian aeromodelling, having flown one of the first engine powered models as far back as the mid-thirties, and had experience with almost every type of model since then....

At right is Jimmy Leighton whose

modelling runs a

close parallel to Jack's

The model Jim is hold-

ing is a record-holding

K&B 19 powered job

which recetly

circulated at

the record

speed of 120

m.p.h., which

is really

fast for

a 3.25c.c.

motor....

At left is

current champs

Max Cummings &

Monty Tyrrell,

who varied

by only

one

point in the

Squaws!
Squaws!
Squaws!
out of
course the photo
hails from up top
Brisbane, where
the Bob Palmer
influence is
mighty strong.
Arthur Gorrie
and a few of
the boys incl
ding Des Sla
very (centre
are showing
off this trib
up How.



Top Right. Reg Wilson, Sec of the Northern Suburbs M.A.C. Hobart. Reg's model is, of course, a twin Mustang, and is powered by two Frog 500 motors.....



(1) Three Elin 149 Freeflighters. Pete Charlton, "Powaven" Rod Ashton, "Footie Racer". Don Hall "Skyskooter".

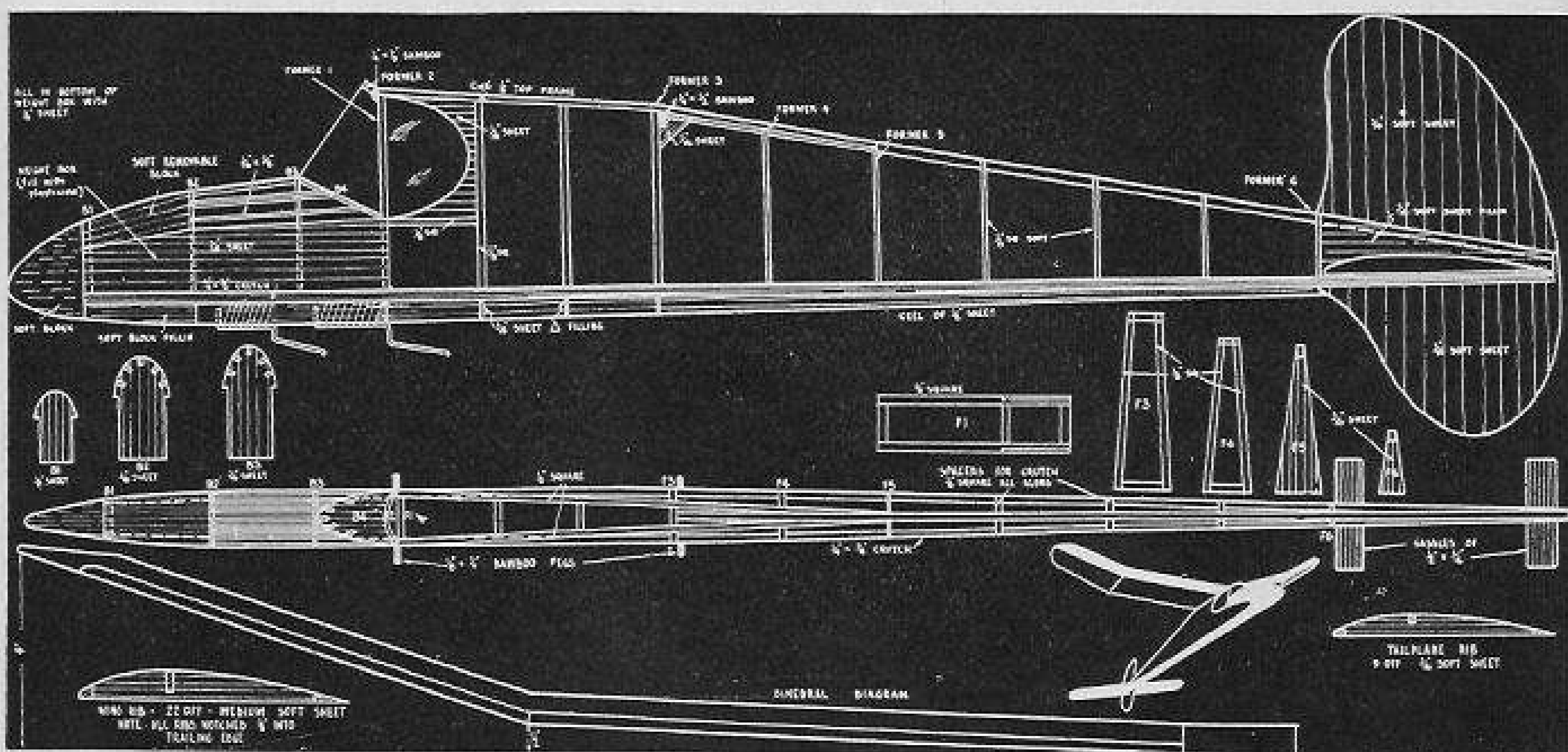


(2) Ian McGlashan with his sailplane entry in the W.A. Jubilee Champs (3) Noel Mitchell, keen all round modeller "firing-up" his F/Fter. (4) Ric Dobbs owns this out-size in Jets, a 750 sq. inch Dyna Jet job.



Left, Herb Henke of Melbourne, who has recorded some of the highest speeds so far achieved in Australia. Models are of original design and powered with McCoy 60s, and Dooling 61





Slooper Slooper

DESIGNED BY BARRY BLACKMAN

Designed in March, 1951, with the idea in mind to have an attractive model with ample stability on the line and in the air, and when test flown the Slooper fulfilled my desires for an ideal smaller type sailplane.

This type of model is "the" job, for the beginner who desires a model which WILL FLY, and has already been proven successful in training a class of novices.

The "Slooper" averaged 1.58 seconds for fifteen flights from a 150 foot towline, at a club sailplane "scramble," flew four miles on an 8 min. O.O.S. flight, served as the

inch x $\frac{1}{8}$ inch backbone (rear of wing to tail fuselage top), nose stringers, bottom keel, and triangular fill-in gussets with hooks, then fins and finally the nose block. Sandpaper thoroughly, and then cover with lightweight tissue.

Wing.—No detailed description is necessary, as construction is orthodox, and plan clearly shows details, but remember to take care with all dihedral joints ("Dihedral" is the angle at which the wings tilt up from the centre towards the tips, and is necessary in a model aircraft to obtain stability).

Tailplane.—Same applies with this as with wing, although of course no dihedral is used in this component. Be sure to use the woods as listed.

Finishing.—Care must be shown here, as even an expertly built framework can be easily ruined by careless covering and finishing.

Sand the entire framework with No. 1 sandpaper, finish off with 0, and then 00. Cover wing and tail with jap or lightweight rag tissue. Strips of contrasting coloured tissue $\frac{1}{8}$ inch wide can be doped cordwise across the tips to cut out the bare look. Fuselage is covered with rag tissue, doped, then given one coat of high grade enamel, which should result in a high gloss to assist in visibility, for nothing keeps a model in sight longer than flashing reflections of the sun from a high gloss finish.

Flying.—With the centre of gravity at the point shown on the plan, and if reasonably well built, the "Slooper" should give you all you desire, but do your best to trim the model to the flattest possible glide.

An almost stall turn in a right hand circle was my preference, but a compromise is necessary between the degree of turn used and the stability of the model on the towline, for obviously if the turn is too tight the model will be hard to handle.

- ★ A medium size Sailplane ideal for beginners
- ★ Plans are exactly one quarter size
- ★ Proven performance
- ★ Simple construction

basic design for four other various sailplanes, and among other virtues it can be relied upon to break the minute, even in poor conditions, and trim.

Construction

Building Fuselage is quite simple — mine took under nine hours to complete. Begin with the crutch (the main frame when viewed from above) of the fuselage. Leave this to dry and continue building up the formers 1, 2, 3 and cutting out the bulkheads. When all cement is dry assemble the bulkheads formers, etc., onto the crutch, with the top frame also in position. Allow this to dry, and then follow in succession with $\frac{1}{16}$ inch balsa nose sheeting, tailsaddles, wing pegs, former number 2, $\frac{3}{16}$



Barry Blackman holding his model "Hot Rocketty," plans of which appeared in the Christmas issue of Model Hobbies.

PLANS QUARTER FULL SIZE.

Using a hundred foot line the model should register times of well over the minute consistently.

When towing, if the model veers to one side, slacken speed until it straightens up, or run in the direction of "veer," which should straighten the towing. The veering

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Model Supplies"

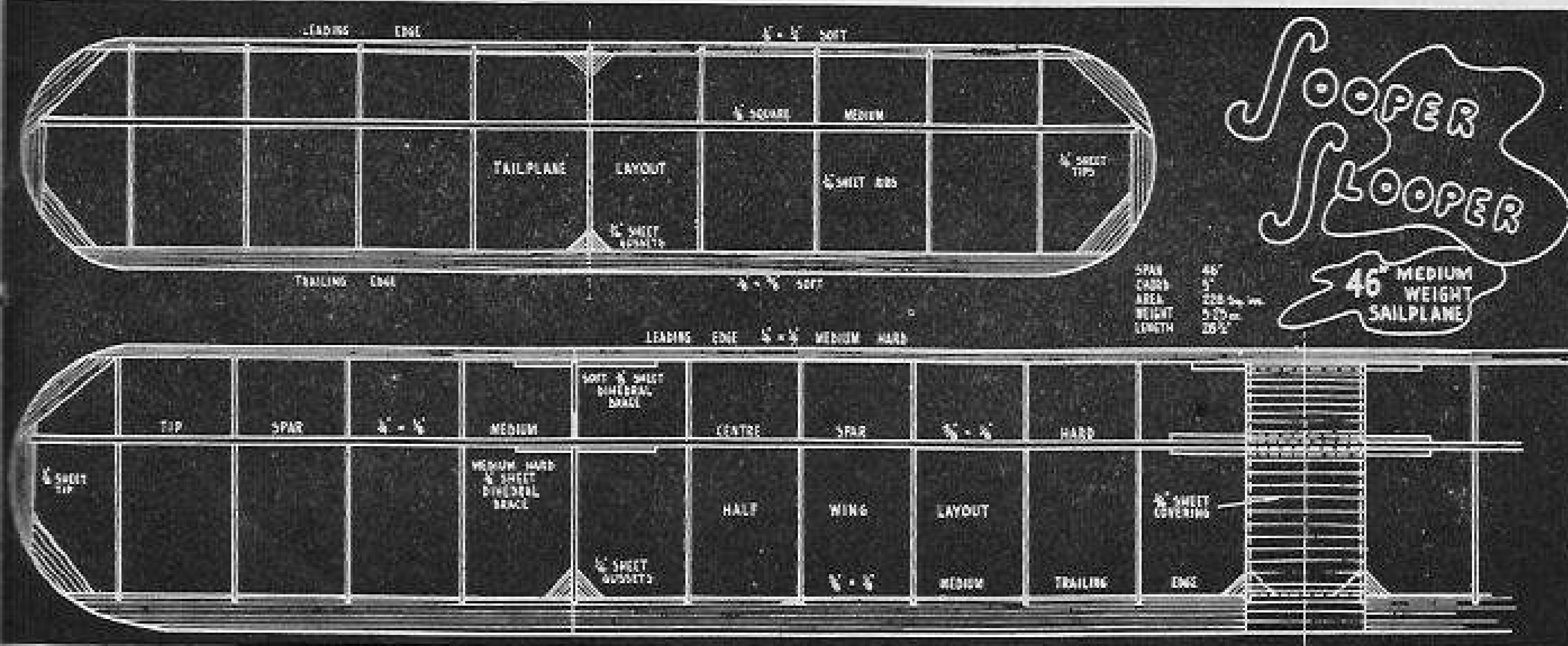
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In model supplies or on contest day.
We fly for sport and fly for fun,
And will earbash with anyone.

GORRIE'S MODEL SHOP

604 Stanley Street,
SOUTH BRISBANE, S.2
(Tram Stop No. 9) Phone: J 4829

off of the model is caused by "out of wind towing," or poorly adjusted model. Should the model not tow straight when wind direction is correct, then turn will have to be applied to the model in the opposite direction to the "veer" on the line.

A sailplane offers, perhaps the most graceful form of flight, and on a 100 metre line (328 feet approx.) this model is a real thermal sniffer, and care should be taken, less a slight thermal whisk your "Slooper" off to distant fields very early in its life.



ACCESSORIES

ENGINE	PROPELLER	LINE SIZE
E.O. BEE	7" x 6"	008-39'
MILLS 75	7" x 5"	008-36'
FROG 150	8" x 6"	008-42'

RAISE THE FUEL TANK
TOLN UP WITH THE
NEEDLE VALVE

WOOD
SCREWS

BOLTS SERVE
AS AXLES

26"

NOTE
THIS HALF OF THE
WING IS ONLY 12 1/2"
INCHES LONG DO
TO THE OFFSET
LOCATION OF THE
FUEL TANK

1/16" SH
COVERING

CONTROL PIVOT
SCREWS

1/8" HARDWOOD
CONTROL MOUNT

[WING TOP VIEW]

BUILD OVER THIS PLAN
FOR COUNTER-CLOCKWISE
FLIGHT INSTALL THE WING
DOWN AND REVERSE THE
FUEL TANK

NOTE
ASYMMETRIC FUSELAGE
LOCATION MAINTAINS
LINE TENSION NO OFFSET
RUDDER ETC. OR WING
WEIGHT IS NEEDED WITH
THIS DESIGN

1/8" DOWEL
LINE GUIDES

WING TIP
BRACE

SHEET
WING TIES

2 1/2"

3/8" x 1/4"

28" ALUM
CLAMP
BAND WITH
WOOD SCREWS
AXLE BOLT

015 FLEXIBLE CABLE
LEAD OUTS

ENGINE
MOUNT

HARDWOOD
GEAR BLOCK

WOOD SCREWS

CROSS SECTION
AT LONG GEAR

ALUM
GEAR

NO
OFFSET
TIN HINGLES

ALUM
PIVOT
040

1/8" WIRE
PUSH ROD

CABIN
BLOCK

1/8" SH SIDES

BLKHD

COWL BLOCK

DMECO'S

13 1/2"

BLKHD

ALUM
GEAR

HARDWOOD
ENGINE MOUNT

INCHES

3

4

all American

STUNT - TRAINER

PERFORMS THE FULL STUNT PATTERNS WITH EASE!
WING SPAN 26" AREA 140" WGT 6 1/2 LBS

DESIGNED BY W.D. DAVE

© 1950 DMECO

THE DE BOLT MODEL ENG CO WILLIAMSVILLE

"ALL AMERICAN JUNIOR"

A SMALLER STUNT TRAINER VERSION OF THE "ALL AMERICAN SNR."

For small motors, Frog 150, E.D. Bee, Mills .75 and 1.3 etc.

DESIGNED BY HAROLD de BOLT, reproduced by courtesy of "DMECO" U.S.A.

THE EXPERIENCE OF MANY YEARS AS A TOP-LINE MODEL BUILDER HAS GONE INTO THIS SMALL STUNTER BY HAROLD DE BOLT, WHO IS RESPONSIBLE FOR SO MANY CONTEST WINNING MODELS.

Designed originally for the baby American glomotors this model is ideally suited to the small diesels available in Australia, so if you have a Mills, Frog or Bee, then this ship is the job for you.

Construction is simple and the plan shows details. One point of note is that the off-set control plate—so successful in the All American Senior—is employed, so giving the model "Asymmetrical Stability," as it's originator de Bolt calls it. By mounting the control plate in-board the centre of gravity is outward from the pivot point, as is the centre of drag, which of course, adds considerably to the stability of the model on the line.

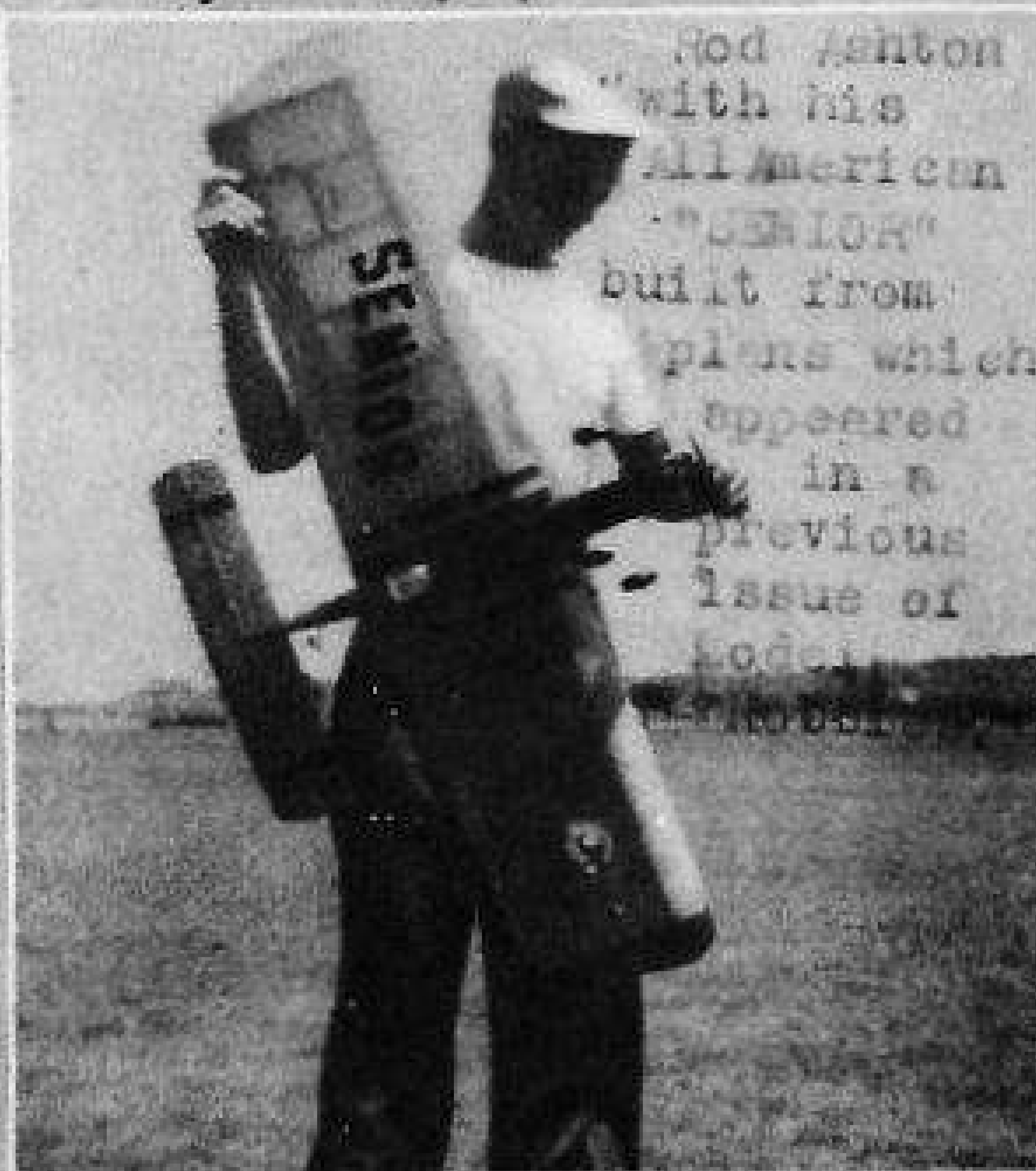
Sides and bottom of fuselage are from $\frac{1}{2}$ inch sheet, the top is formed from $\frac{1}{2}$ inch at front and $\frac{3}{4}$ from cabin back. Hollow out this cabin block.

Rudder and tailplane are $\frac{1}{2}$ inch sheet.

Wing ribs $\frac{3}{32}$ inch. Wing tips $\frac{1}{2}$ inch. Leading edge $\frac{1}{2} \times \frac{1}{2}$ inch. Trailing edge $\frac{1}{2} \times \frac{1}{2}$ inch. Use only medium hard wood throughout, with the exception of the fuselage top which may be medium soft.

Cover entire model with lightweight tissue.

Fly on 25 to 55 foot lines according to the power output of your motor.



Rod Ashton with his All American "SENIOR" built from plans which appeared in a previous issue of Modeler.

M.A.I., also offer
"M.S." the gloplug with the heart of platinum

GEE BEE, Plastic Canopies.....
REELIN U/C Handles...12/6

Full Trade Discounts available to legitimate traders on all lines

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TEAM RACING
MODELS
at a price
EVERYONE
CAN AFFORD

T/S KIT No 1.
"ST ARCHELL"
Class "A"
29'6

Complete with wheels, formed U/C, all parts cut to shape, full size plan, spinner, metal parts shaped, tissue, and an illustrated step by step instruction sheet..

T/S KIT No.2.
"ST ARBOMB"
Class "B"
39'6

Both of these kits are of modern design and have been contest proven.

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Today on your business letterhead for current catalog

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JETEX...

AIR KRAFT KITS E.D. MOTORS.

SOLARDO

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lifebuoys, life rafts, etc.

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in Australia

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31 QUEEN STREET, MELBOURNE

National News

(Continued from page 14)

Class II Speed—

- 1st—L. Thomas (Vic.), E.D. 246, 8 x 10 own, Hell Razor,
68.2 m.p.h.
2nd—V. Ratchford (N.S.W.), E.D. 246, 7 x 10 own,
Original, 66.7 m.p.h.

Class III Speed—

- 1st—N. Bell (Vic.), McCoy 19, Original, 96.8 m.p.h.
2nd—W. Judd (N.S.W.), K & B 19, Original, 94.8 m.p.h.
3rd—I. Frost (N.S.W.), McCoy 19, Original, 91.0 m.p.h.

Class IV Speed—

- 1st—J. Finneran (N.S.W.), Dooling 29, Circulator, 116.9
m.p.h.
2nd—H. Stevenson (N.S.W.), MS 29, Original, 107.9 m.p.h.
3rd—M. Wright (Vic.), Dooling 29, Speedwagon, 104.6
m.p.h.

Class V and VI Speed—

- 1st—L. Buck (S.A.), Dooling 61, 8 x 12 Stant, Original,
118.5 m.p.h.
*2nd—L. Hopkins (N.S.W.), Fox 59, Original, 109.8 m.p.h.
*2nd—I. Frost (N.S.W.), McCoy 60, 109.8 m.p.h.

Event 5.

SAILPLANE, F.A.I. RULES—

- 1st—M. Malcolm (N.S.W.), Thermalist, 209.9 secs.

Event 6.

RADIO CONTROL—

- 1st—K. Newitt (Vic.), Yulon, E.D. Mk. III, 110.5 points.
2nd—H. Treychenne (Vic.), Frog 500, E.D. Mk. III, 98 points.
3rd—K. Hearn (Vic.), Frog 250, E.D. Mk. III, 79 points.

Event 7.

TOWLINE SAILPLANE F.A.I. CLASS AII. (Nordic)—

- 1st—C. McDowell (N.S.W.), 193 secs. 2nd—F. Partridge
(N.S.W.), 133.6 secs. 3rd—E. Crabbe, 126 secs.

Event 8.

WAKEFIELD—

- 1st—A. King (Vic.), 208.6 secs. 2nd—J. Fullarton (Vic.),
197.9 secs. 3rd—A. Thomas (Q.), 185.7 secs.

Event 9.

TEAM SPEED, Class C. for Class V and VI Motors—

- 1st—M. Tyrrell (Vic.), Spitfire, Y & O, 12 x 7, Original.
2nd—M. Sharp (S.A.), Burford 49, Pep 10 x 8, Original.
3rd—P. Sandford (N.S.W.), Durant 60, Original.

Event 10.

JUNIOR STUNT CONTROL—

- 1st—D. McLaren (Vic.), Spitfire, 12 x 8 P.A.W., Original,
370½ points.
2nd—G. D. Brown (Vic.), At. Triumph Pep 10 x 8, Veco
Chief, 333 points.
3rd—B. Angus (Vic.), Frog 500, 10 x 6 P.A.W., Lil Duper
Zileh, 328 points.

Event 11.

SENIOR STUNT CONTROL—

- 1st—M. Tyrrell (Vic.), Spitfire, Y & O 12 x 7, Veco Chief,
331 points.
2nd—M. Cumming (N.S.W.), Fox 35, 10 x 6 P.A.W., Hot
Canary, 330 points.
3rd—C. Sommers (Q.), Frog 500, 10 x 6 P.A.W., Mod.
Warrior, 304 points.

Event 12.

FREE FLIGHT, Class I—

- 1st—A. King (Vic.), Elfin 149, One-blader, Original,
Average Ratio 19.48.
2nd—M. Sharp (S.A.), Elfin 149, Pep 8 x 3, Coppock,
Average Ratio 15.78.
3rd—M. Bradney (Q.), Allbon 149, Own 9 x 5, 4/5 Jaded
Maid, Average Ratio, 12.38.

Event 13.

FREE FLIGHT, Class II & III—

- 1st—A. King (Vic.), McCoy 19, One-blader, Original,
Average Ratio, 11.8.
2nd—J. Fullarton (Vic.), McCoy 19, Original, Average
Ratio 7.94.
3rd—L. Fahey (Q.), Mills 2.4, Own 10 x 4, Pipiriki,
Average Ratio, 4.16.

Event 14.

FREE FLIGHT, Class IV & V—

- 1st—N. Treychenne, Frog 500, 10 x 6 P.A.W., Civvy Boy,
Average Ratio 8.85.
2nd—A. King (Vic.), Dooling 29, Original, Average Ratio
7.75.
3rd—W. Dubber (Vic.), Frog 500, 10 x 6 P.A.W., Hyphen,
Average Ratio 4.24.

(Continued on page 34)

E.D. CONQUERS CHANNEL

Model Boat fitted with E.D. 4.5 c.c. Diesel successfully radio controlled from Dover to Calais in 9 hours!

AMAZING FESTIVAL YEAR ACHIEVEMENT

Exercising their usual flair for spectacular achievement Electronic Developments have provided one of the highlights of the Festival Year by making the first model boat Channel crossing.

This gargantuan project was undertaken primarily to prove the exceptional performance of the prototype Mk. V, 4.5 c.c. Diesel and the new Mk. IV, Radio Control Unit.

Preliminary tests were made over the 15 mile stretch from Richmond to the South Bank Exhibition in conjunction with the Festival authorities, and at the International Model Boat Contest, Fleetwood, where a 9 mile run around the Wyre Lighthouse was successfully negotiated.

The astonishing success of E.D. enterprises over the past few years has in this latest achievement been proved beyond all doubt. Where reliability is valued and precision workmanship acknowledged E.D. products have always been the choice of the wiser modelling world.

Extracts from the LOG OF CHANNEL CROSSING

compiled by Mr. J. E. Ballard,
6th September, 1951.

THE CREW:

Mr. J. Ballard (Managing Director of Electronic Developments (Surrey) Ltd.
Mr. George Honnest Redlich (E.D.'s Radio technician and designer of the Radio and Model Boat).

Mr. Trevor Owen (Radio assistant to G.H.R.).

Mr. Gordon (Proprietor of Hammersmith Models and owner of the "Sea Gull" following the Motor Boat).

Mr. Bones (Reporter and photographer of Percival Marshalls Ltd.).

Mr. Smith (Pilot).

11.30 a.m. The Radio controlled model launch is placed in the sea and after check on radio and engine is started and launched, heading for France at 11.39 a.m.

11.59 a.m.—Crossing the entry of Dover Harbour. We are 100 yards behind model. Entering open seas at 12 o'clock.

1.36 p.m.—English coast out of sight.

1.45 p.m.—Seas rough, losing sight of model in big troughs of waves, but radio operation working wonderfully. Radio control working overtime to steer straight course.

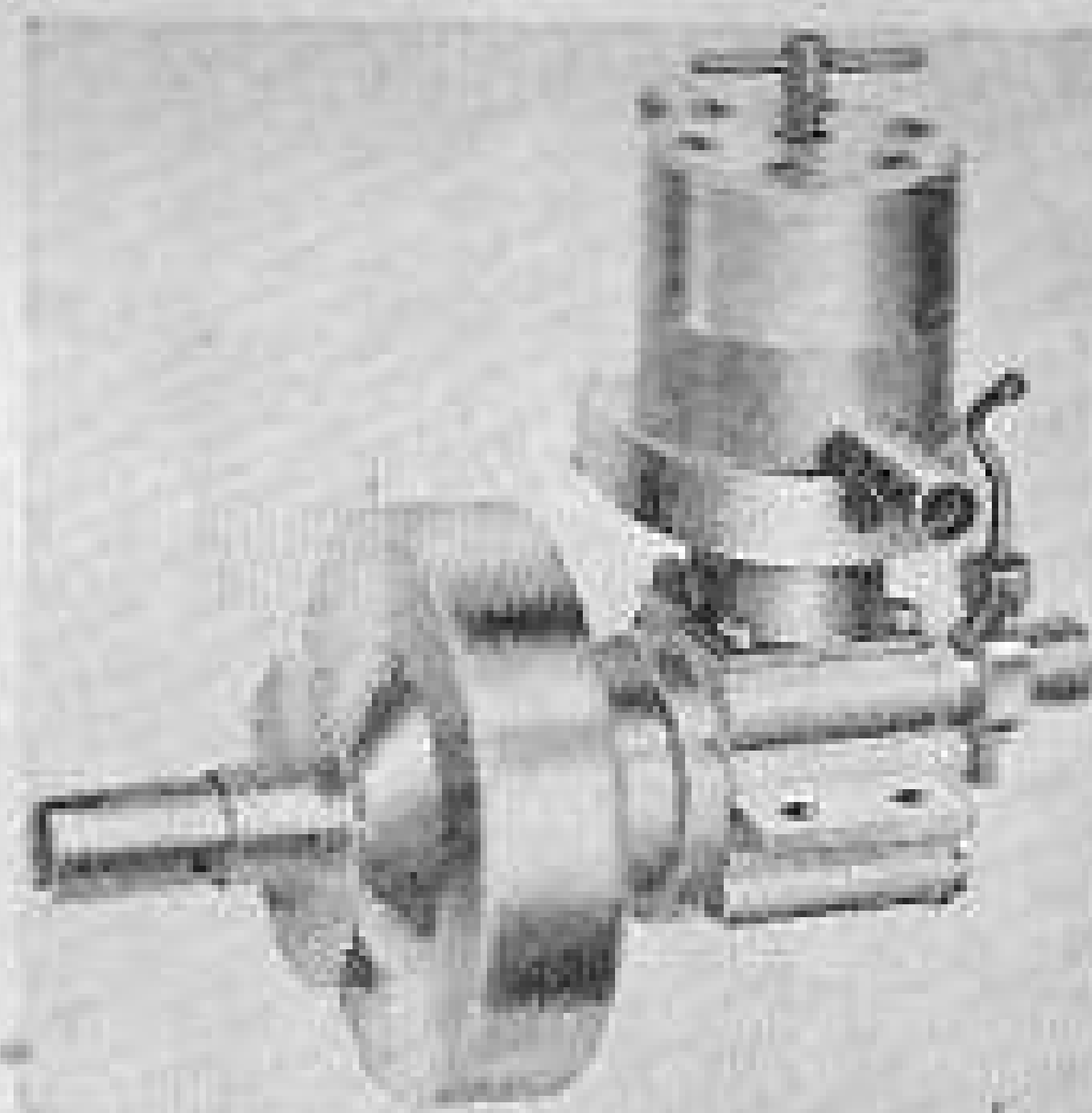
2.5 p.m.—Model did complete circle, as it was swerving round by force of waves,

but radio working perfectly and model put back on course.

2.25 p.m.—Seas very rough. Angle of boat more than 45 degrees at times.

2.35 p.m.—Difficult to keep model in sight at 250 yards ahead, as seas too rough. Bring it nearer to 100 yds. ahead.

2.40 p.m.—Big patches of seaweed encountered.



THE NEW E.D. MK. V. 4.5 c.c. DIESEL

2.43 p.m.—Engine stopped by seaweed. Seaweed cleared and engine restarted in 4 minutes. Cross Channel steamer sighted. People on board seem quite intrigued.

3.15 p.m.—Mail boat from Belgium sighted.

THE BOAT: "Miss Es-dee," 5 ft. long, 2 ft. beam, weight 70 lbs. Police launch type.

THE ENGINE: A 4.5 c.c. water cooled new E.D. engine. Internal water tank fitted, syphon system for cooling, direct drive, R.P.M. approximately 6,500.

THE RADIO: The new E.D. 3, Channel 3 reed unit.



GEORGE HONNEST REDLICH AT WORK ON THE BOAT HE DESIGNED FOR THE CHANNEL ATTEMPT.

4.8 p.m.—Tramp steamer from France passing close to us.

5.5 p.m.—Compass N.B.G. We are lost. Steering by sun position.

5.34 p.m.—Model behaving perfectly.

6.10 p.m.—Sun gone and still not aware of position.

6.45 p.m.—Model wonderful. Sea a little calmer.

6.50 p.m.—Land sighted.

6.55 p.m.—Sighted position marked as north of Calais near Dunkirk we think—we hope. Model perfect.

7.25 p.m.—Calais lighthouse recognised which means we are well north off course.

7.45 p.m.—Owen at controls, darkness descending. Getting nearer, 50 yds. behind model.

8 p.m.—Calais Harbour mouth seen.

8.30 p.m.—Enter Calais Harbour.

8.34 p.m.—Losing sight of model.

8.35 p.m.—Find model in rays of torch still plugging along merrily.

8.39 p.m.—Arrived quayside, brought model by side of launch by radio and took superstructure off to stop engine. Engine stopped by hand.

8.43 p.m.—Model lifted aboard to "Sea Gull."

8.55 p.m.—Leave "Sea Gull" for shore. All very tired and happy.



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75 Glenferrie Road, Hawthorn E.2, Melbourne

NEW ZEALAND NOTES - - -

FROM
LEN PERRY



The teams selected to represent New Zealand in international contests this year are:-

WAKEFIELD.

D. Wilson, North Shore. B. Marsh, Auckland.
M. Conner, Wellington. F. Bethwaite, North Shore.
D. Kennedy, Oamaru. A. McCauley, Timaru.

A II NORDIC.

R. Penniker, Hamilton. R. Johnson, Palm. Nth.
W. Chay, Wellington. J. O'Brien, Wanganui.....

The models were dispatched airfreight to London where they were collected by Mr. C. S. Rushbrooke, who with the help of other members of the "Aeromodeller" magazine staff took the models under his wing ensured their safe arrival at their respective contests.

According to Mr Rushbrooke-who by the way is Editor of Aeromodeller- the box in which the model were transported was a masterpiece of construction, which gave him a few headaches when transporting it from London Airport to his headquarters at Watford on the roof of his car.....

RESULTS OF '51-52 N.Z. NATIONAL CHAMPIONSHIPS.

Towline Glider. Nordic A II. -as listed above for Nordic.

Controline Speed Class II (.19-.29 cu. inch) Mr & Mrs McCrorie 109.6 m.p.h.

Controline Speed Class III (.29-.625 cu. inch) R. Freeman 125.5 m.p.h.

Controline Speed Class IV (JET) R. Freeman 106.3 m.p.h.

Team Race. G. Johnson 15min29.4secs.. Prototype P. Carter 86 points.

Aerobatic. T. Oliver 674 points.

Radio Control. L. H. Wright.....

Payload. B. Hootes, 4min46 secs.....

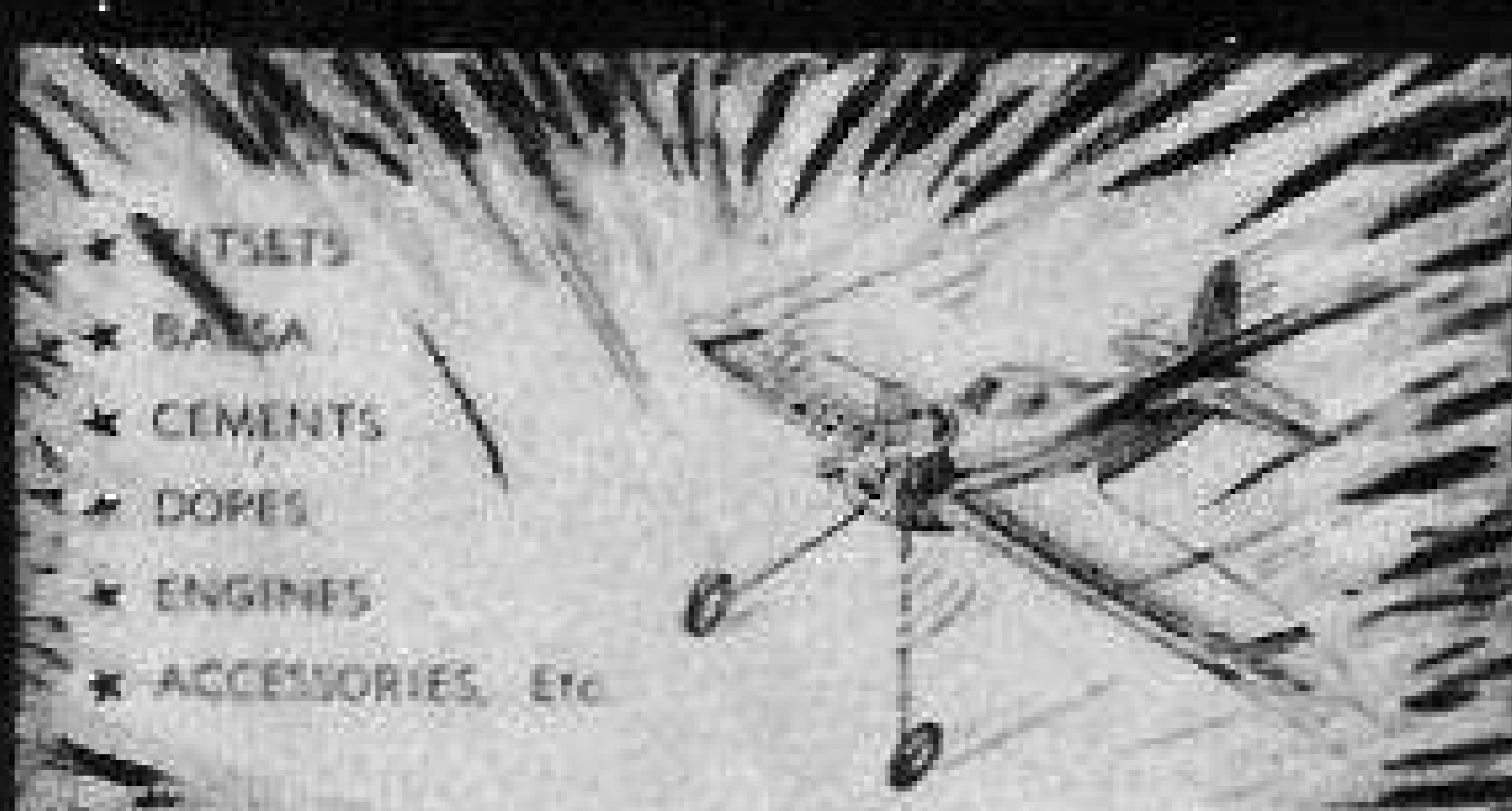
Gas Power. J. Boyd 8 min 49 secs.....

Champion of Champions, P. Carter.....

Champion Club, Mutt Valley.....

PHOTOS. Top. D. Wilson, Wakefield winner...

2. Junior Champ, Alex Reid. "Modelair Trophy"
Len Perry



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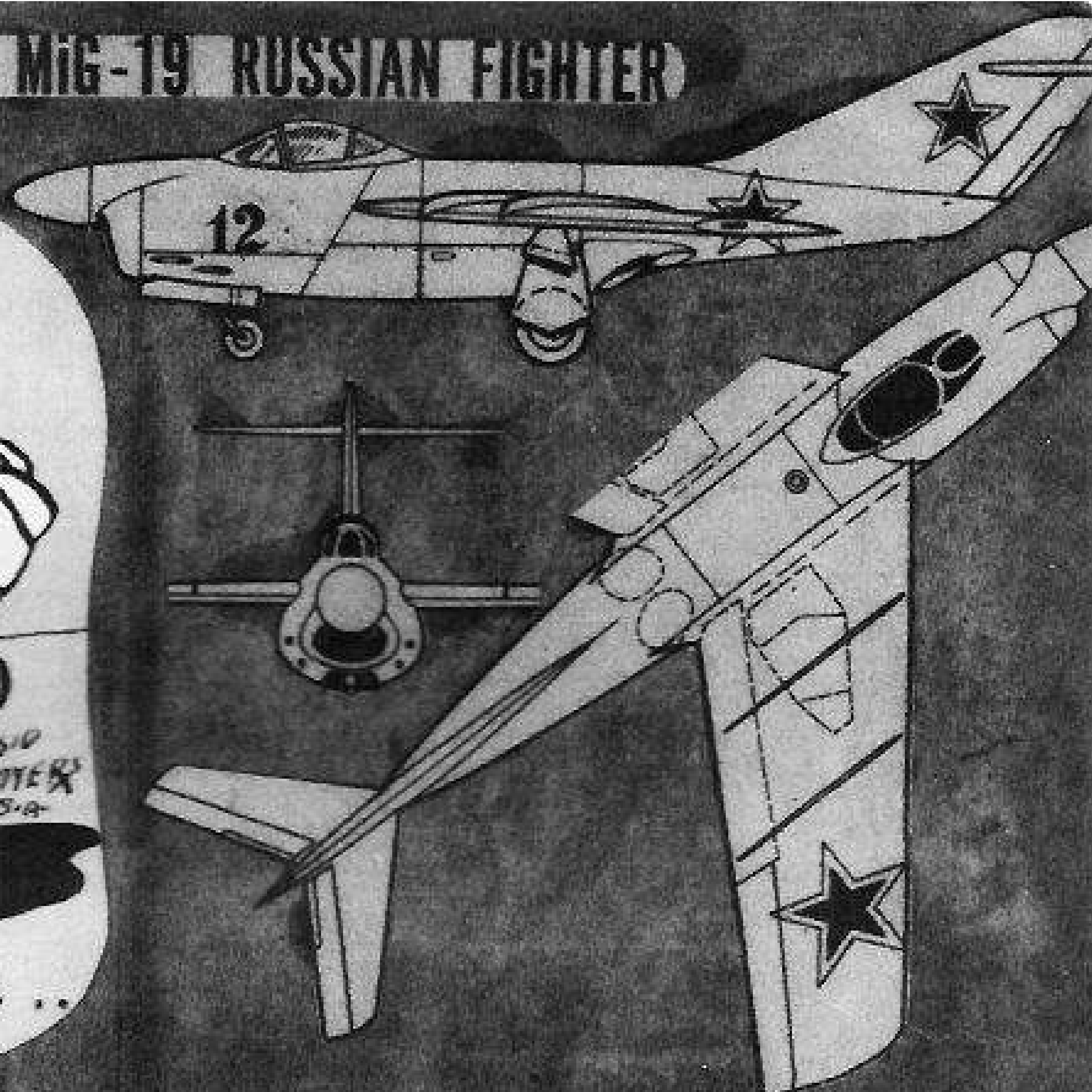
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Carter
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Champ of
Champs
Trophy..

SUPER MiG-19 RUSSIAN FIGHTER



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NOW AUSTRALIAN MODELLERS FOR THE FIRST TIME

You have a Weekly Radio Session
to keep you informed of modelling
activities throughout Australia
From 5KA 5RM 5AU every
Thursday night at
10.30 E.S.T., 10 S.A. or
8.30 W.A.

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SEND 3d. STAMPED ENVELOPE FOR PRICELISTS
ADDRESSED
Session Conducted by Bill Evans



PROGRAMME—Continued from page 30.

NATIONALS PROGRAMME 1952-53

To be held at suitable sites adjacent to Melbourne

27th December to 2nd January, 1953

PROGRAMME

First Day: 27th December, 1952

- (1) Processing of all models from 10 a.m. till 5 p.m.
- (2) Ballotting for order of flight in speed, and team speed flying.
- (3) Team Speed Eliminations.
- (4) Event 1. INDOOR FLYING. Exhibition Building provisional site.

Second Day: 28th December, 1952

2. FREE FLIGHT CLASS 1.
3. RADIO CONTROL (First round).
4. JETEX DURATION.

Third Day: 29th December, 1952

5. TEAM SPEED CLASS "B."
6. ADVERTISER TROPHY INTERSTATE TEAM SPEED RACE.
7. CONTROLINE FLYING SCALE.
8. CONTROLINE PAYLOAD.

Fourth Day, 30th December, 1952

9. OPEN JUNIOR RUBBER.
10. SAILPLANE F.A.I. CLASS A II. (NORDIC).
11. FLYING SCALE RUBBER.
12. RADIO CONTROL (Second round).

Fifth Day: 31st December, 1952

13. FREE FLIGHT CLASS II and III.
14. WAKEFIELD.
15. HAND-LAUNCHED GLIDER (Chuck glider).

Sixth Day: 1st January, 1953

16. CONTROLINE STUNT JUNIOR.
17. CONTROLINE STUNT SENIOR.
18. CONTROLINE SPEED.
- Class I and II (up to 2.5).
- Class II (2.501—3.5).
- Class IV (3.501—5.000).
- Class V and VI (5.001—11.500).
- Class VII (Jet).

Five minute limit will be strictly imposed on motor starting for all speed events.

16. TEAM SPEED CLASS "A."

Seventh Day: 2nd January, 1953

20. FREE FLIGHT CLASS IV, V AND VI COMBINED.
21. ONE HOUR POWER SCRAMBLE.

Check details on entry form concerning entry fees etc. Late entries will be accepted on the field up until the starting time of the contest on payment of late entry fee.

Any protests must be handed to contest director within one hour of the disputed happening. All protests will be dealt with by a committee consisting of representatives from all States (if possible).

THE FREE FLIGHT EVENTS are scheduled to be held at RESERVOIR which is only a few miles from Melbourne, and the CONTROLINE FLYING will be on a METROPOLITAN OVAL or park.

ACCOMMODATION WILL BE AVAILABLE for those who desire it, BUT bookings must be made with the Hon. Sec., Mr. Bob Rose, V.M.A.A., Railway Terrace, Laverton, Victoria, BEFORE the 30th OCTOBER. The cost will be £7/10/- for the seven days. This includes all three meals each day.

THIS YEAR'S NATIONALS SHOULD BE THE BEST ATTENDED SO FAR, AND WILL BE WELL WORTH ANY EFFORT YOU MAKE TO GET THERE.

The Sorcerer F/F

(Continued from page 19)

minute 58 seconds, which amply demonstrates the ability of this model to hang in the slightest thermal.

For maximum climbing angle the motor was given $1\frac{1}{2}^\circ$ UPTHURST and 2° left thrust. This gave a tight, but safe upward spiral. The "Sorcerer" gives a quick flip out of the climb into a fairly tight (and incidentally a glide close to the stall) glide.

I use a 60" span, 20 ounce job powered with an Elfin 249, for rougher weather, and the 12 ounce Elfin 249 model for calm air flying, as I firmly believe that one set up cannot possibly perform to its utmost under the greatly varying weather conditions we are forced to fly under.

The choice of the name "Sorcerer," was chosen after the model had demonstrated its evident control of the weakest thermal.

The fuselage construction used is exceptionally strong, enabling the fuselage to be built from comparatively soft balsa (not TOO soft). Construction is simple, and plan should be studied thoroughly until quite understood. Particular care should be shown with the dethermaliser, check that it is properly aligned when in position.

Great care was shown in the finish of the model. Absolute smoothness was obtained by applying a coat of full strength dope with a little talcum powder added, to

the balsa sheet areas, and then sanded down, a further coat of full strength dope is then applied, and all is thoroughly sandpapered again. Colour with any good grade of fuel-proof synthetic enamel-black on fuselage and fins. Allow this enamel to dry for as long as possible—at least several days—then cut right down with rubbing paper. Apply a final coat meticulously, allow to dry, then polish with floor wax.

Fuselage can be covered with tissue, if desired, before doping or painting. This tissue covering adds considerably to strength.

Trimming is fairly simple for any free flight enthusiasts, and REMEMBER it is always that little extra time given to trimming, which always pays off, and makes the "good model" into a "champion."

Get the glide reasonably correct from left-hand banked hand launches. Circle should be about 30 yards in diameter. Ascertain that the thrust settings are as indicated on the plan. Now commence power flights on about $\frac{3}{4}$ r.p.m. Adjust out any undesirable tendencies, and gradually open up motor watching every move the model makes in the air. Adjust if necessary, then trim with thrust adjustments till model climbs steeply in tight left hand circles.

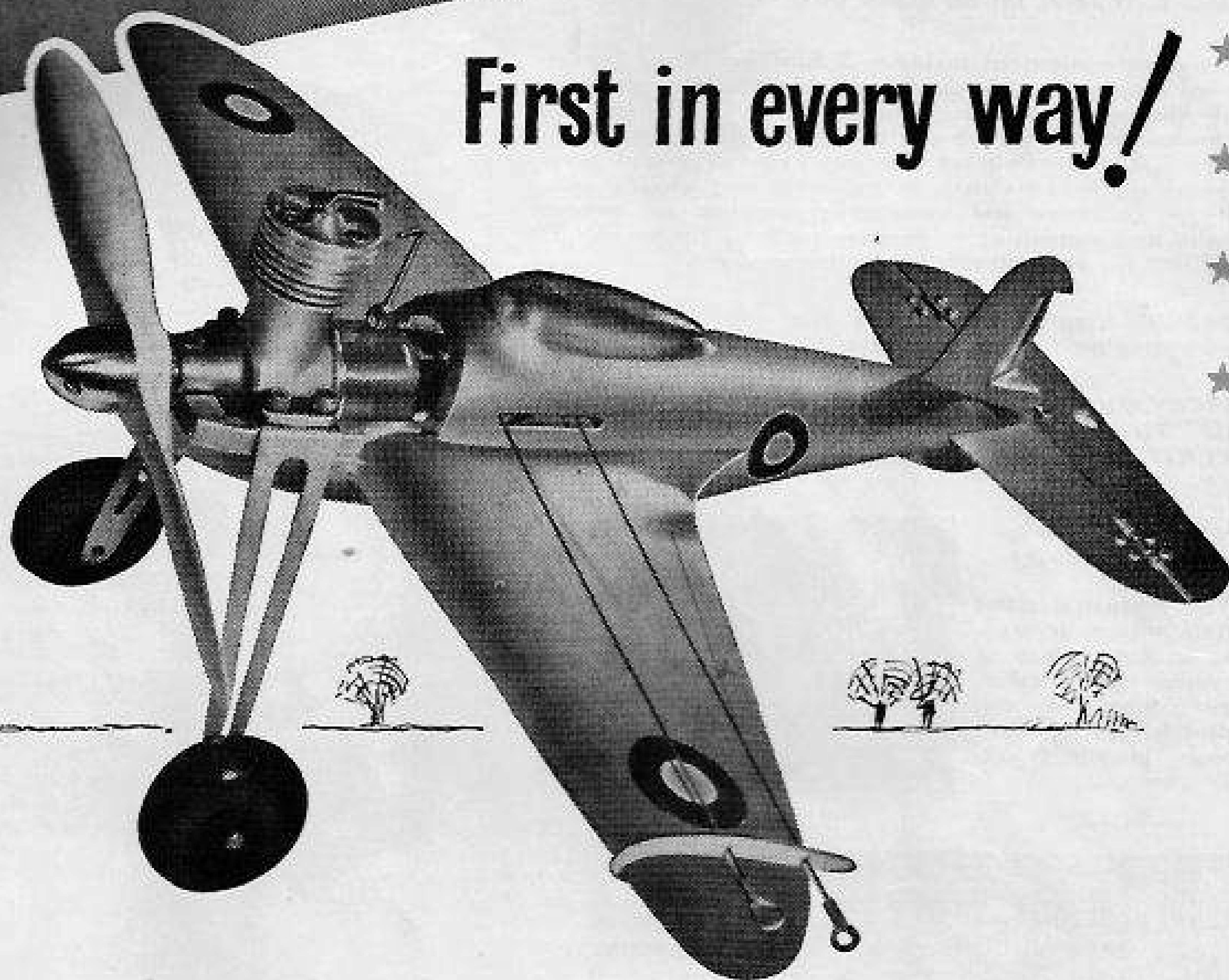
Remember this model is "Thermal Happy," and so you are only wasting your time building it if you do not fit a D/T, and make certain that is it going to operate on every flight. I learnt to do this the hard way!

GEOFF PENTLAND.

The

CHALLENGER

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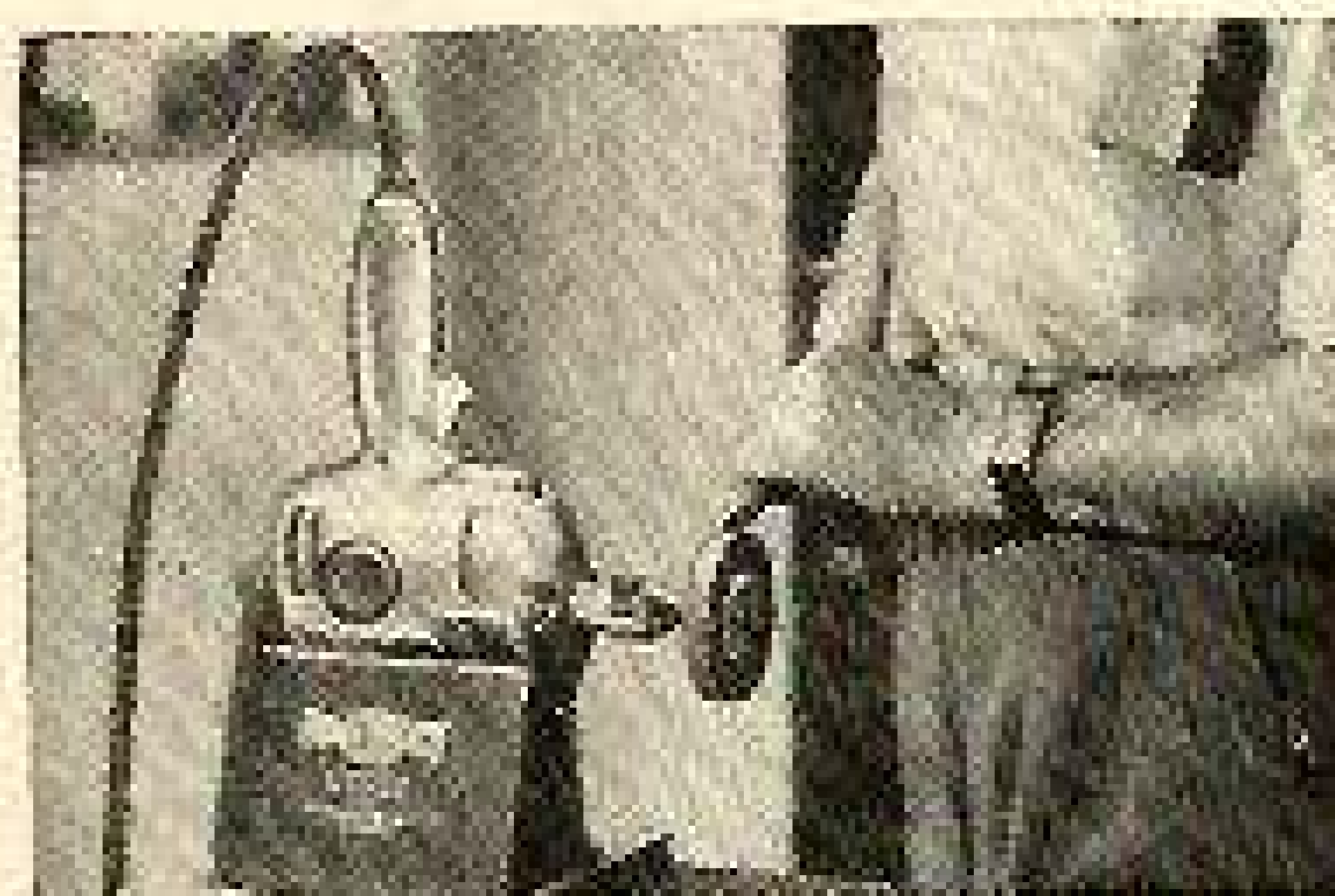
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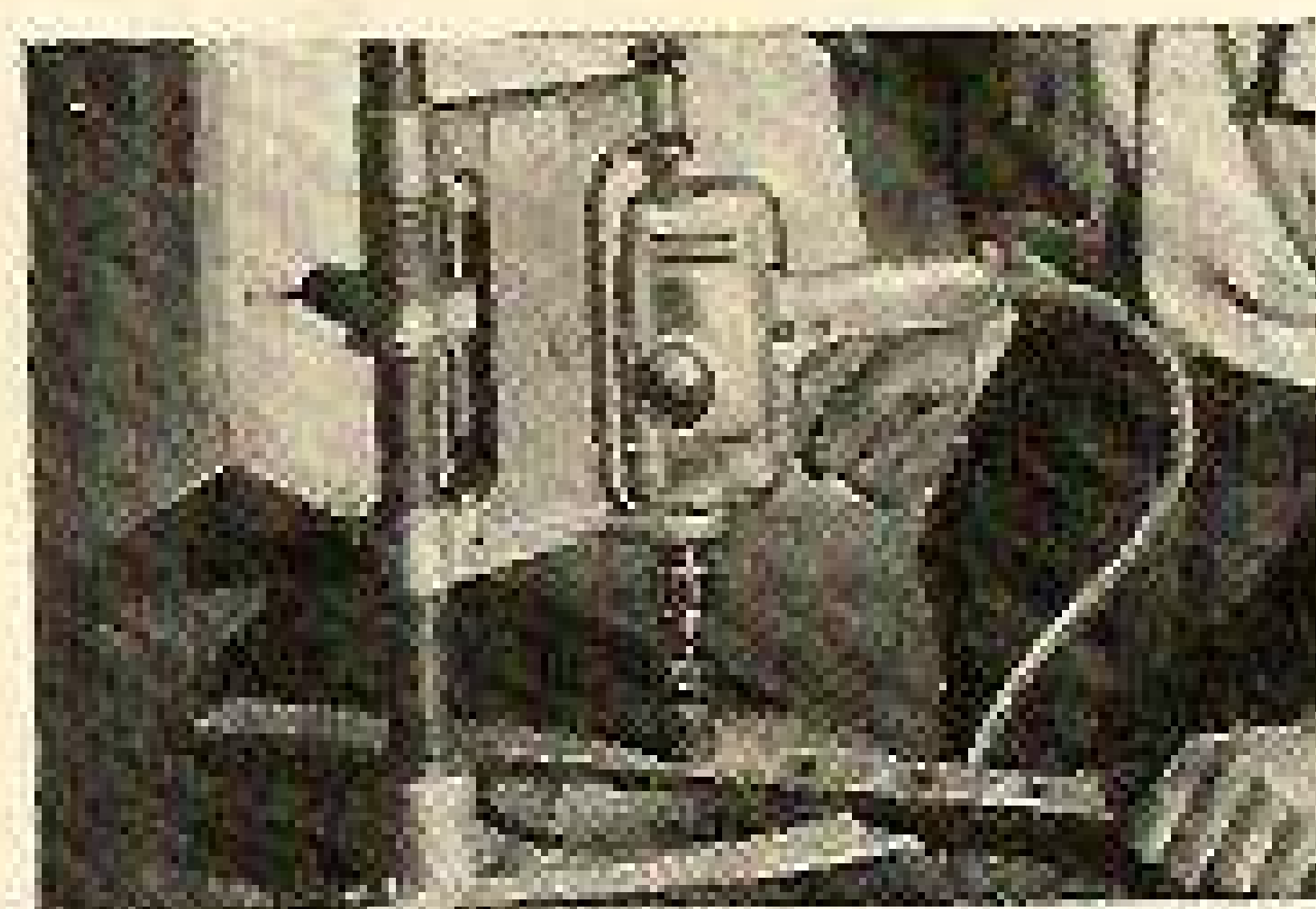
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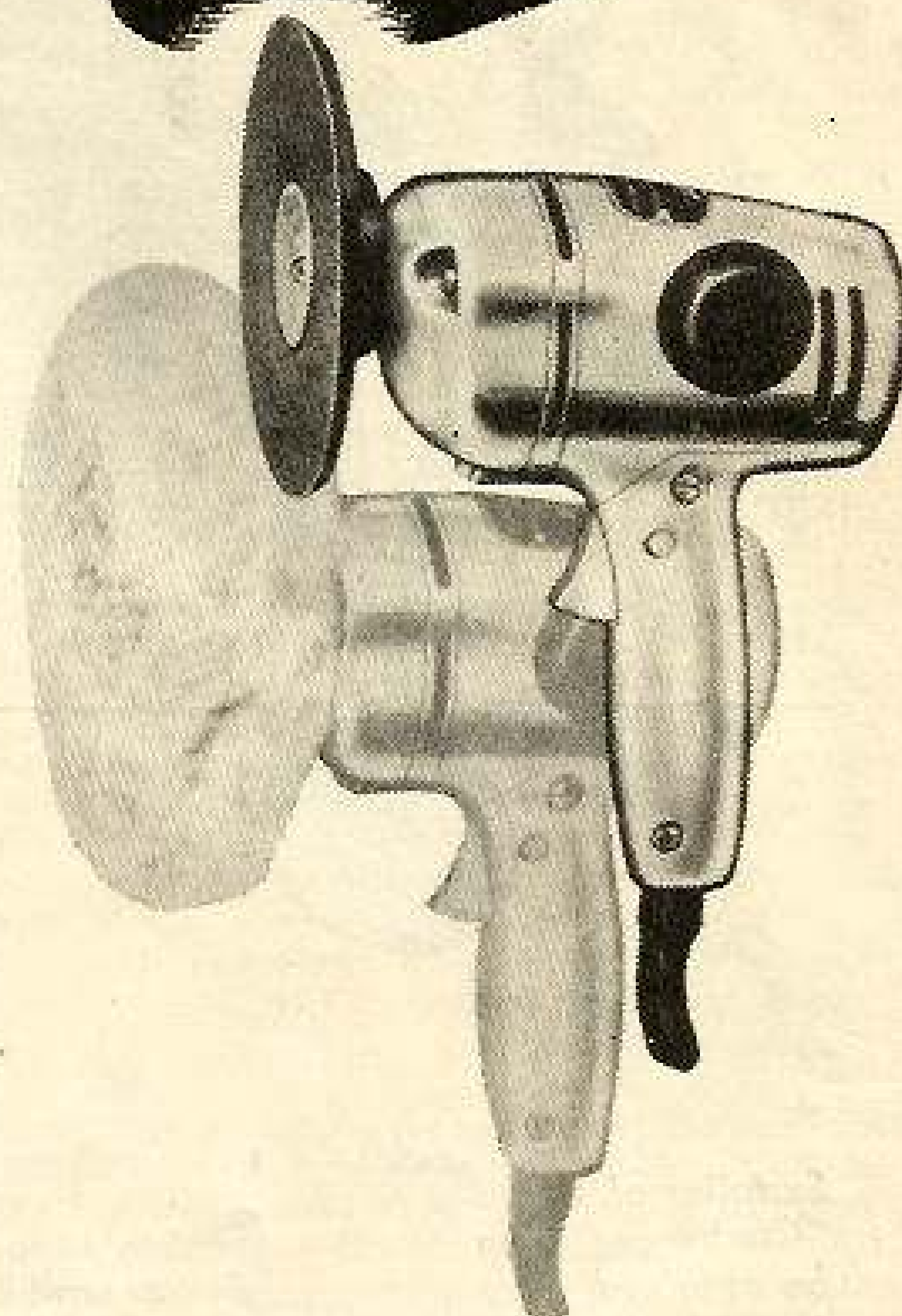
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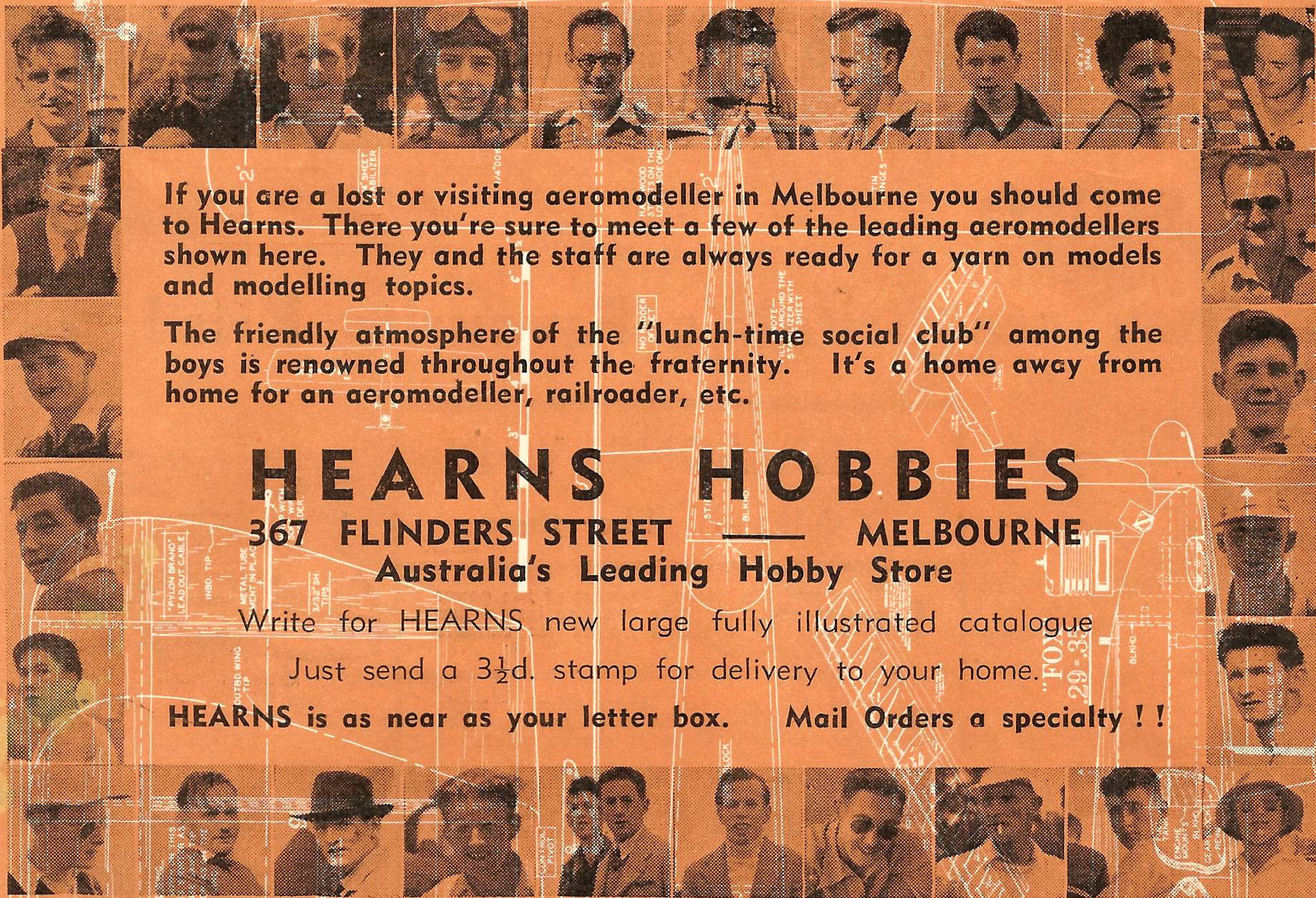
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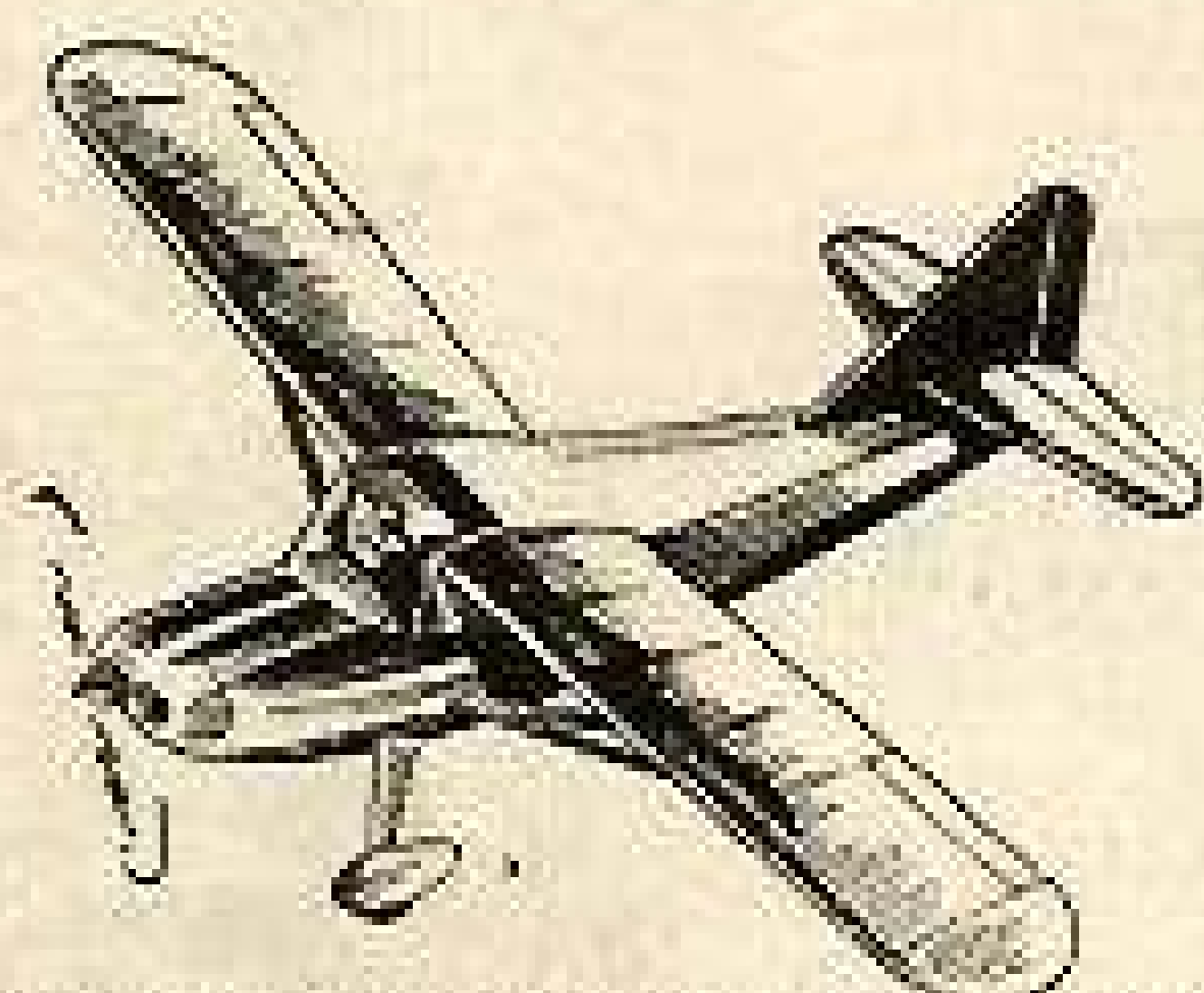
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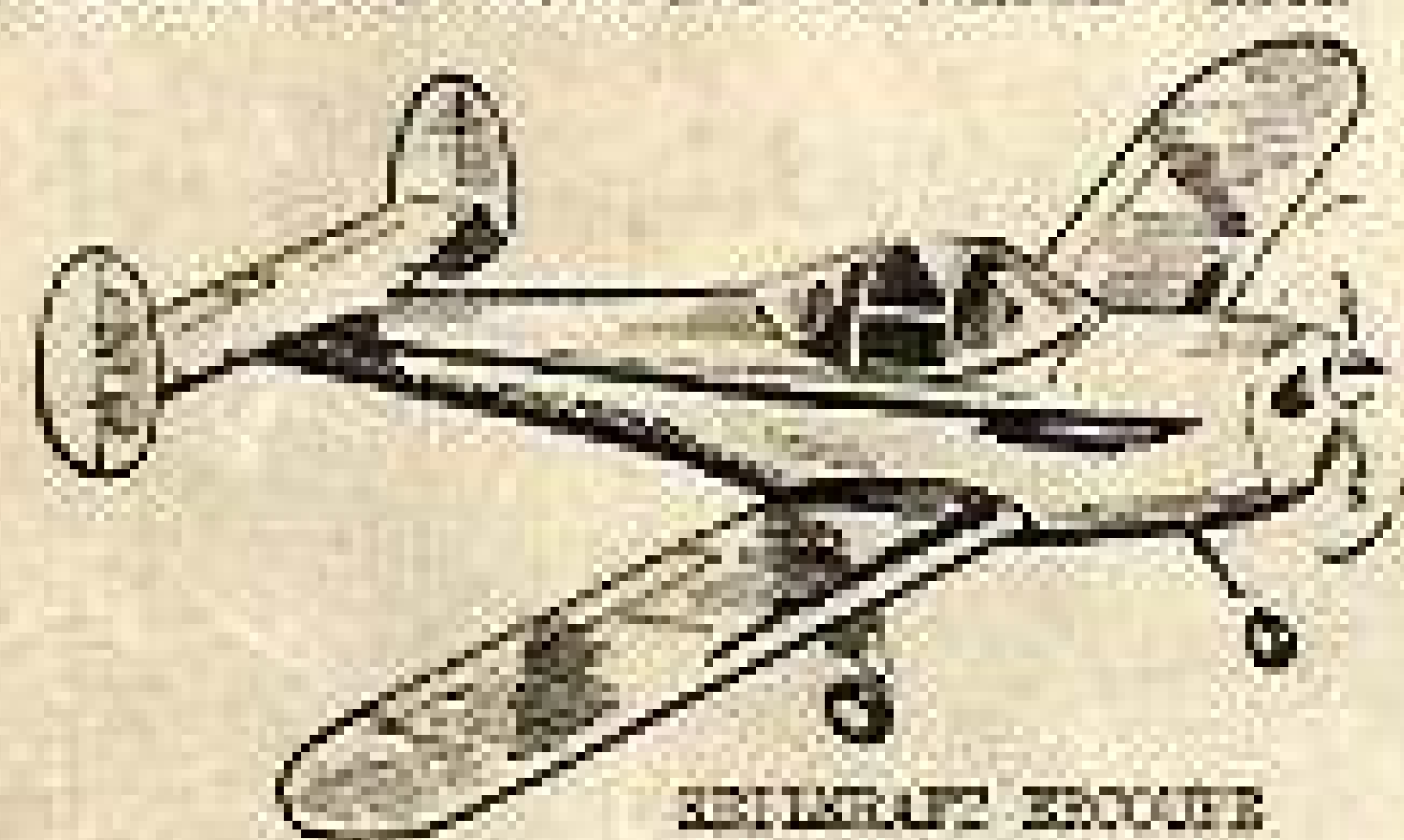
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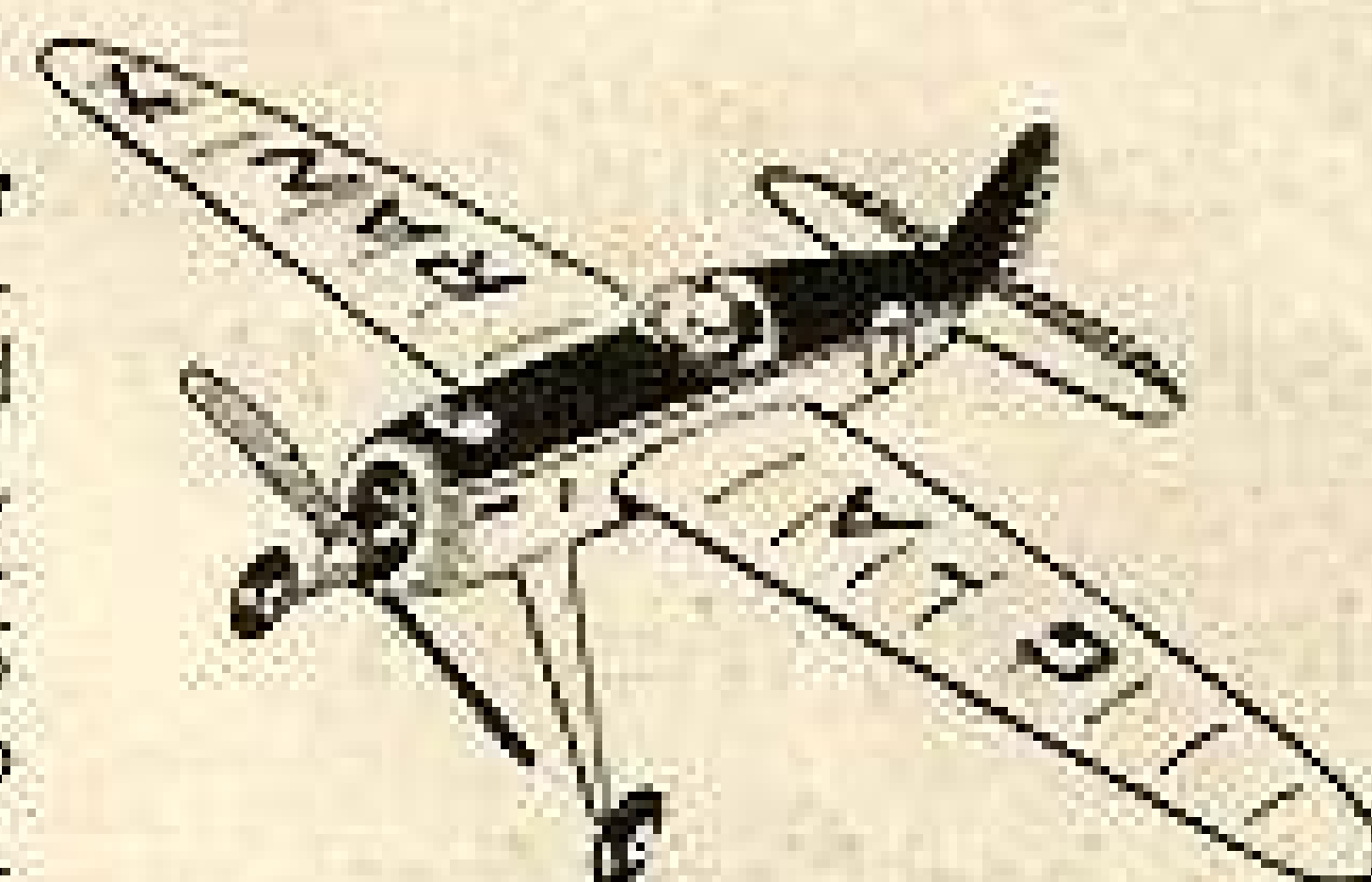
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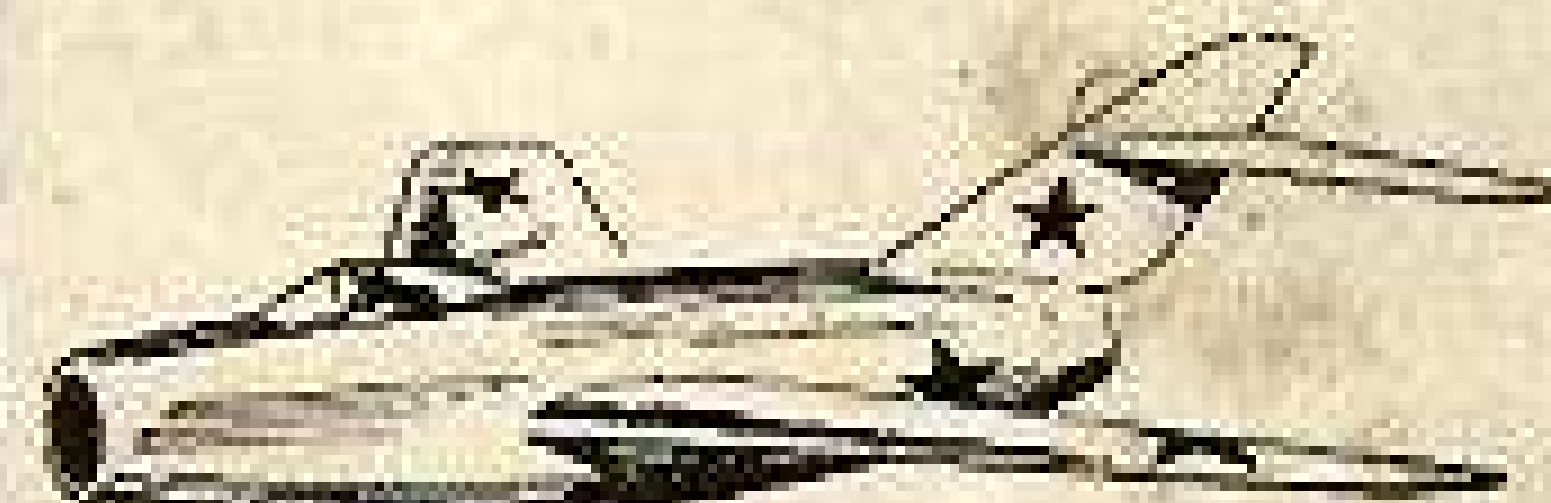
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