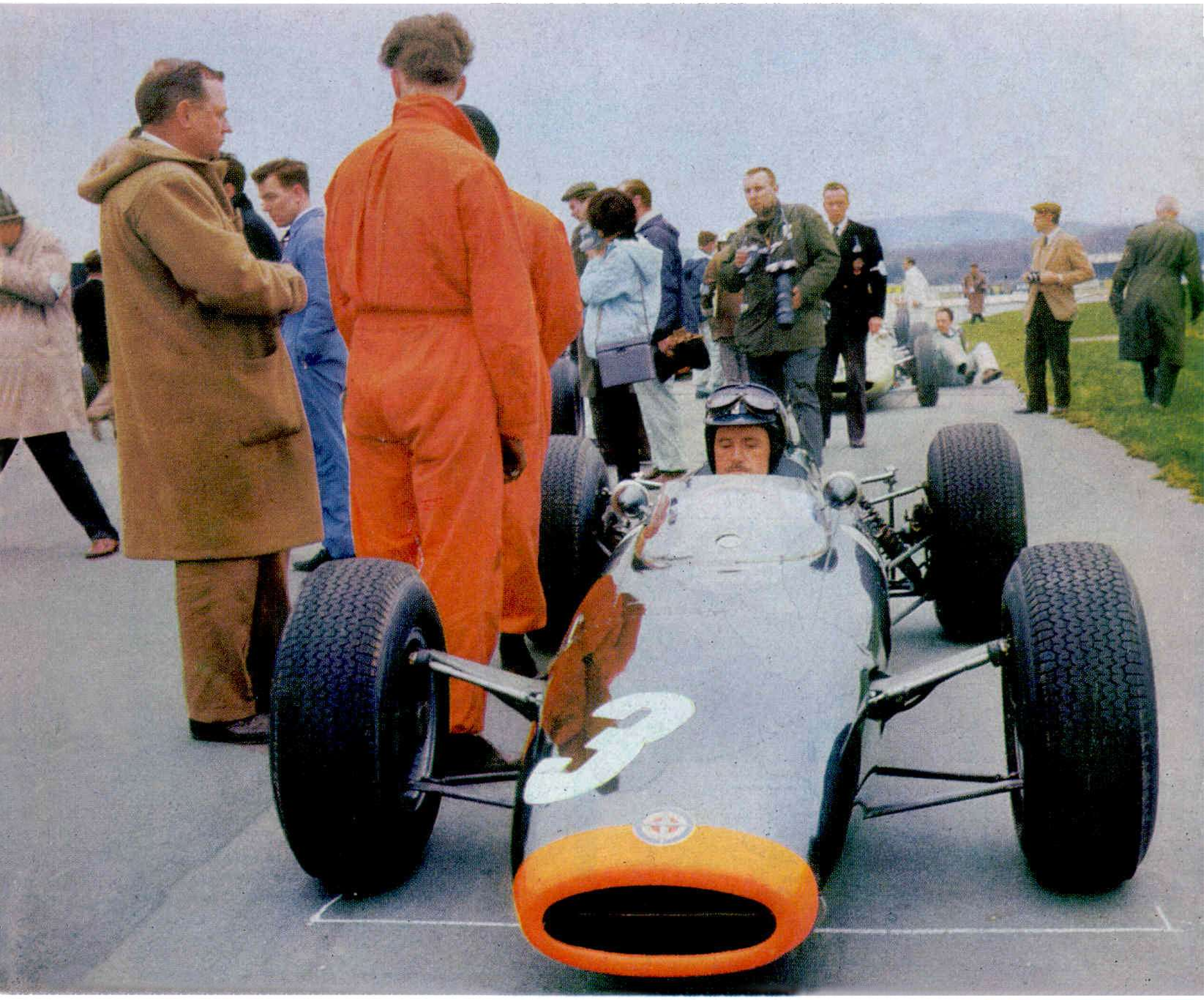
Win a camera—competition inside

meccano magazine

August

1s.3d.



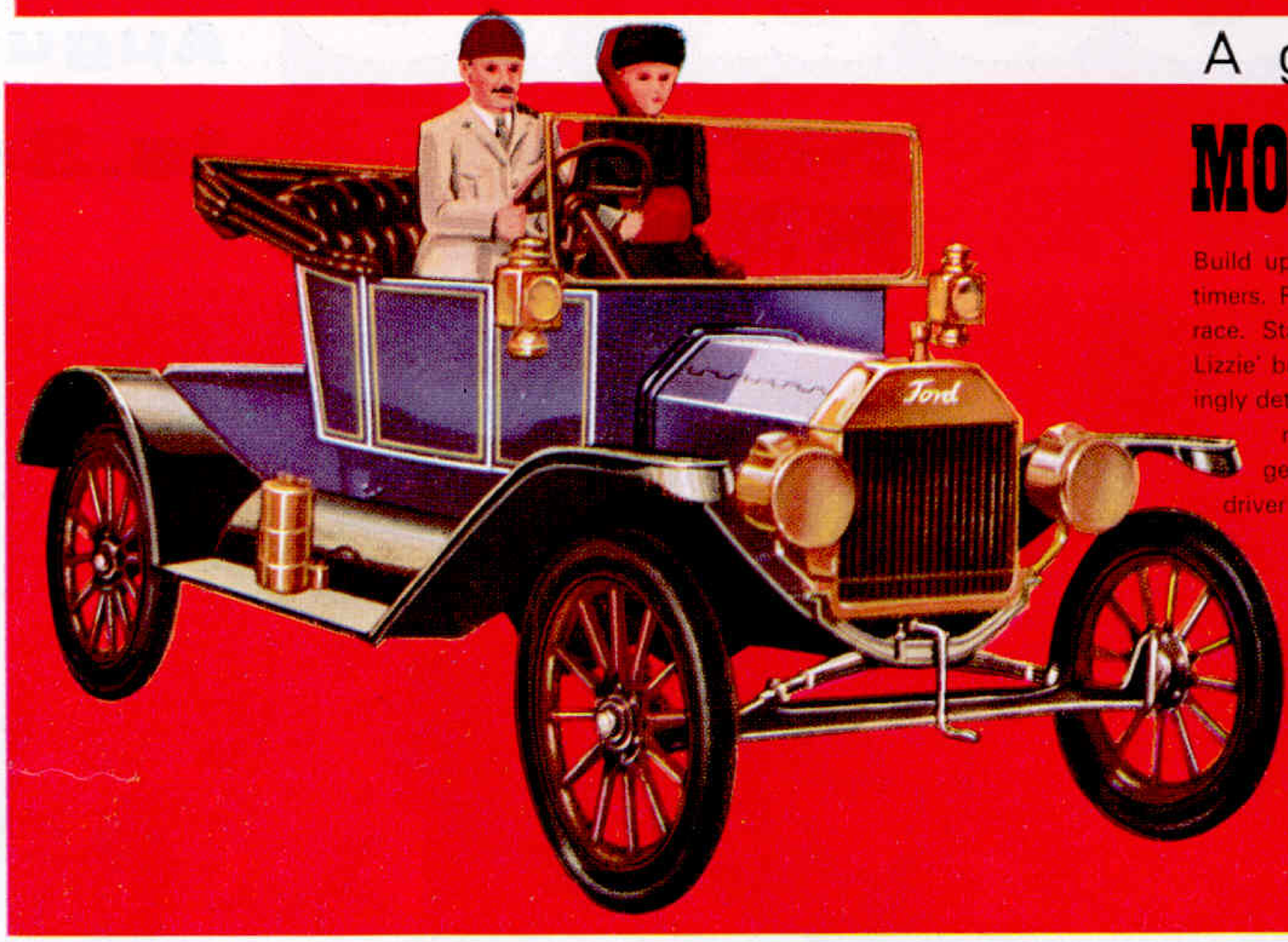
the practical boy's hobbies magazine

1964

IN THIS ISSUE

- Make your own Periscope
- The British Grand Prix

THIS MONTH'S NEW DINKY MODELS



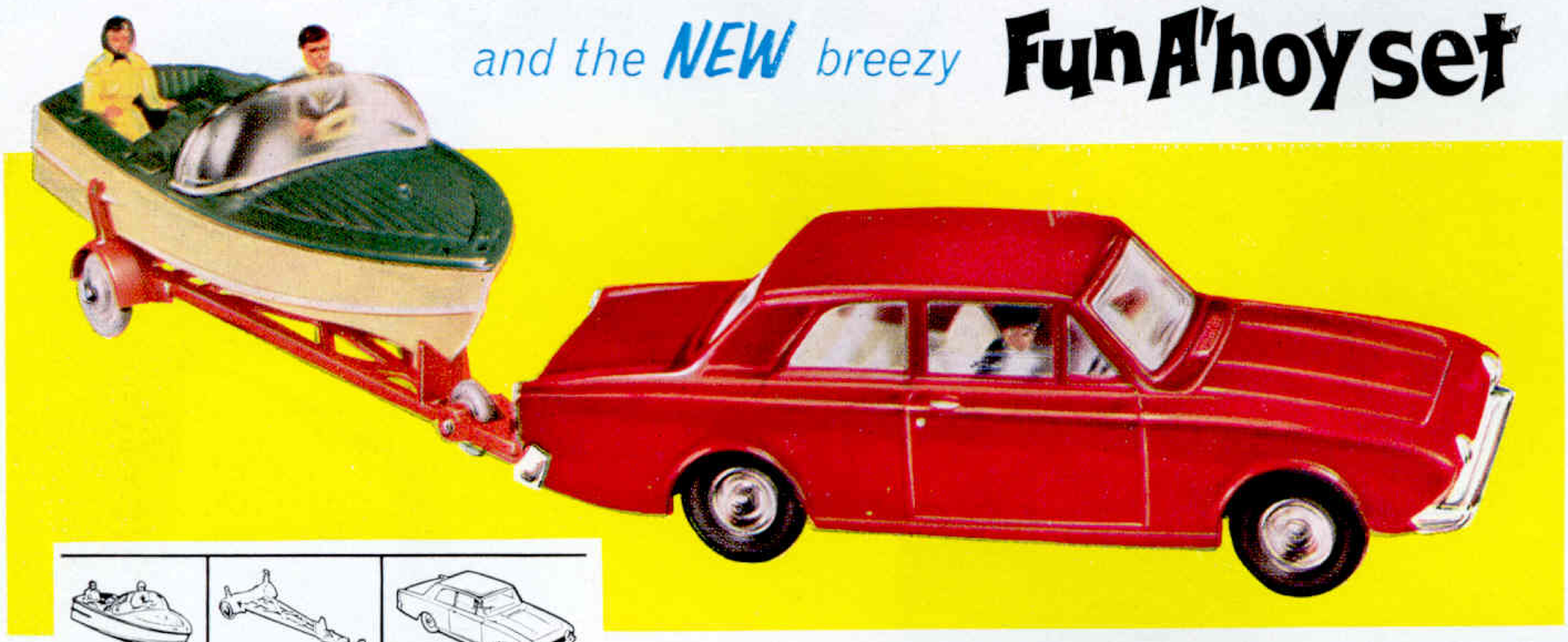
A great old-timer

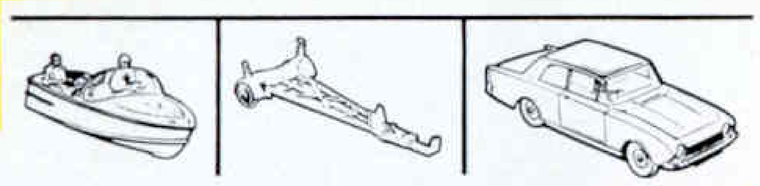
MODEL T FORD

Build up a series of these wonderful old timers. Run your own London – Brighton race. Start with this famous 3-litre 'Tin Lizzie' built by Henry Ford in 1908. Excitingly detailed model with 'brass' lamps and radiator, starting handle, acetylene generator, authentic spoked wheels, driver and passenger in period costume.

MODEL NO 475 **7/11**

and the *NEW* breezy **Fun A'hoy set**





Boat slides off trailer, trailer hooks on Corsair.

Lots of fun on road and sea with the New Ford Corsair towing a Healey sports boat and trailer. Boat has skipper and passenger. Corsair has fully detailed engine compartment – battery, radiator etc. Up-and-down windows. Prestomatic fingertip steering. Chauffeur. Jewelled headlights. Steering wheel. In red metallic with cream upholstery.

SET NO.125. **9/11**

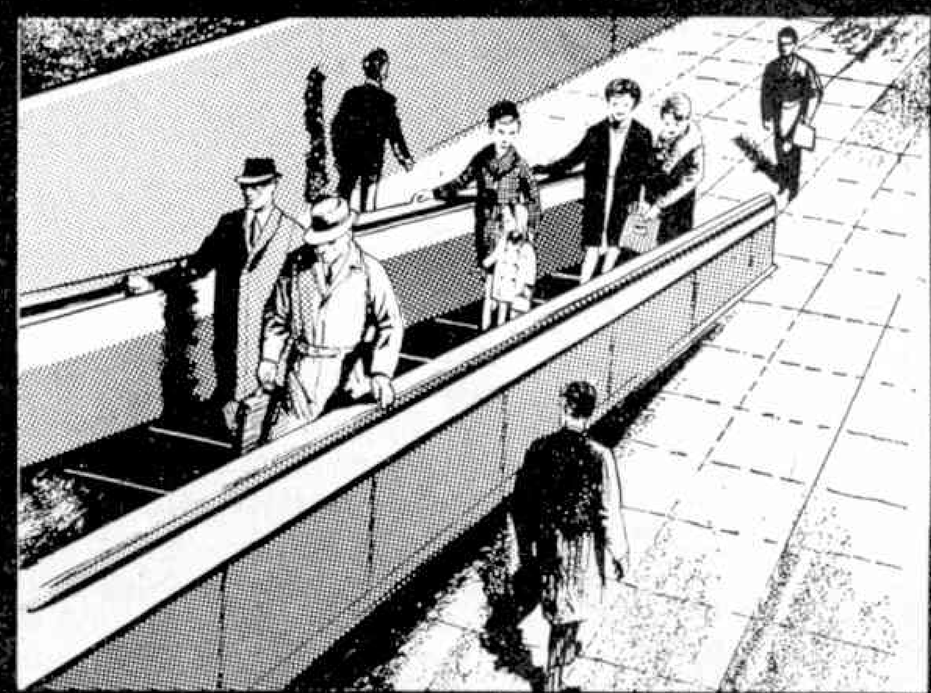
Always something new from

DINKY TOYS®

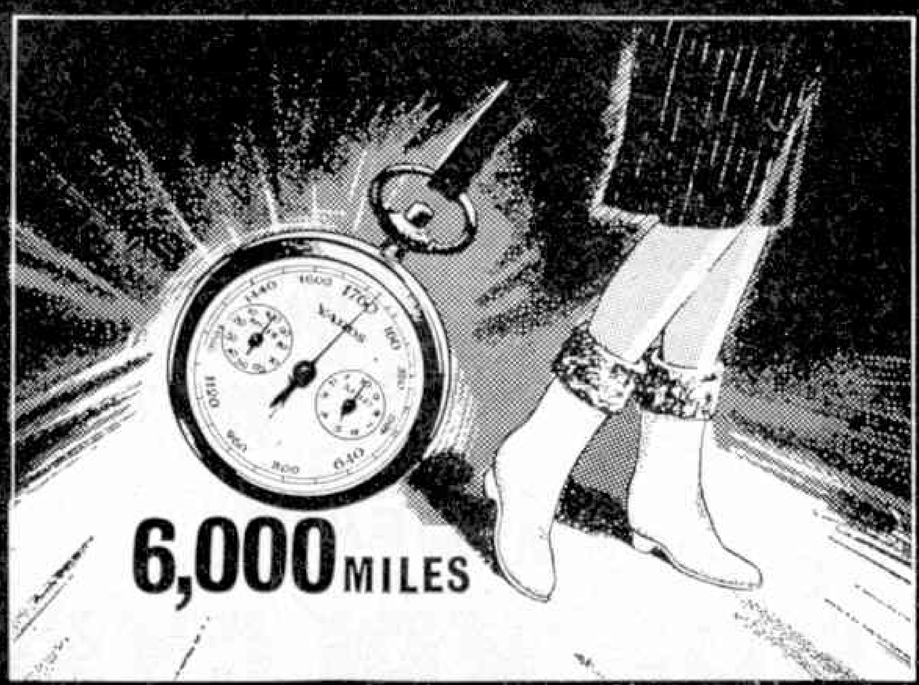
precision-engineered by Meccano Limited.

well! WHAT D'YOU KNOW...

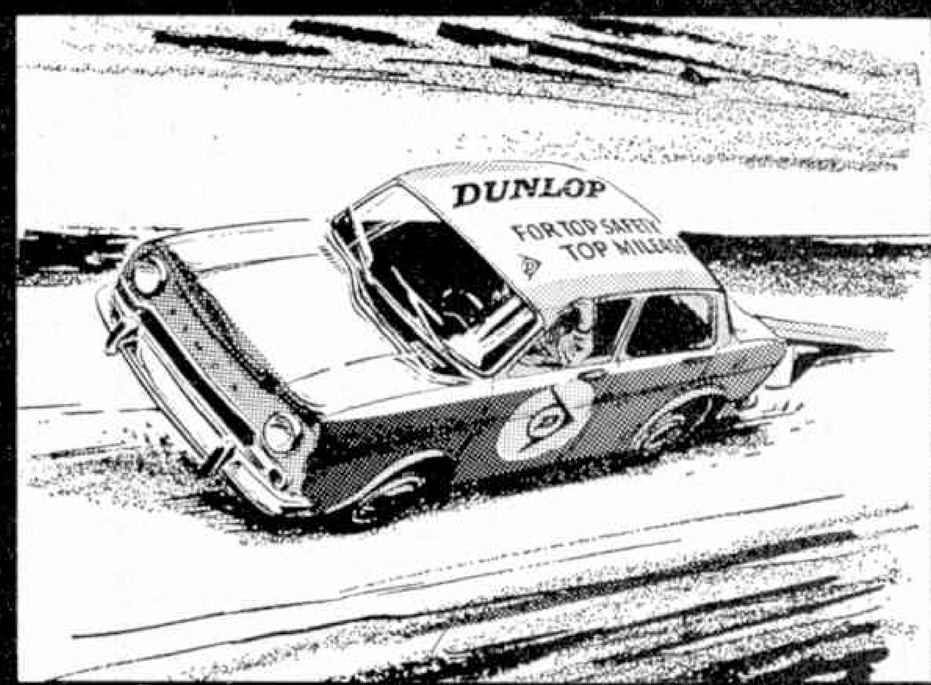
A BICYCLE MADE FOR FIVE!
This strange Quintuplet was built in 1897 for Dunlop's extensive activities in cycle racing. It is said to have travelled at 50 mph—a lot faster than the cars of that period! Early this year the 'Quint' made news again, for Dunlop took it from their museum and demonstrated it on BBC TV. Five Dunlop apprentices rode the machine on this occasion, but they didn't venture above 20 mph—because the 'Quint' has no brakes!



CONVEYOR BELTS FOR PEOPLE!
Dunlop make belts for conveying all kinds of materials; now they have made one for conveying people! This forms the ingenious Speedwalk at the Merrion Centre, Leeds. When visitors step on to the moving belt they are carried 66 ft. up an incline and into the Centre where there are shops, a bowling alley and offices. The first of its type in Britain, this 'Speedwalk' is able to carry 7,200 people per hour.



FOOTING IT FOR A LIVING!
A lady in Liverpool walks 12 miles every working day for the sole purpose of testing Dunlop Footwear! She records the distance with a *pedometer* (a device which works from the swing of the leg) and in the last two years has covered about 6,000 miles! Out in all weathers she puts Bootees, Wellingtons and Fashion Shoes through their paces so that Dunlop can be sure the footwear you buy is really hardwearing.



GYMNASTIC CAR!
Believe it or not, this car isn't toppling over. It is travelling on two wheels at 20 miles an hour! The daring driver who demonstrated this 'balancing act' at Silverstone last year is Jose Canga, ace driver of the Grand Rodeos de France. He drove in this hair-raising manner right round the race circuit! No wonder he chose Dunlop tyres for such a feat.

DUNLOP

SYMBOL OF PROGRESS

CFH/PR4/15

Be a mathematical genius for 4/11d.

Why waste hours with multiplication and division tables when you can have the new simplified HELIX slide rule for only 4/11d? You will have complete mastery over every table up to 12 times at your finger tips.
Made from mahogany this simple but accurate junior slide rule will help you in day-to-day mathematics and help you to understand the more complicated slide rules which you will be using soon.

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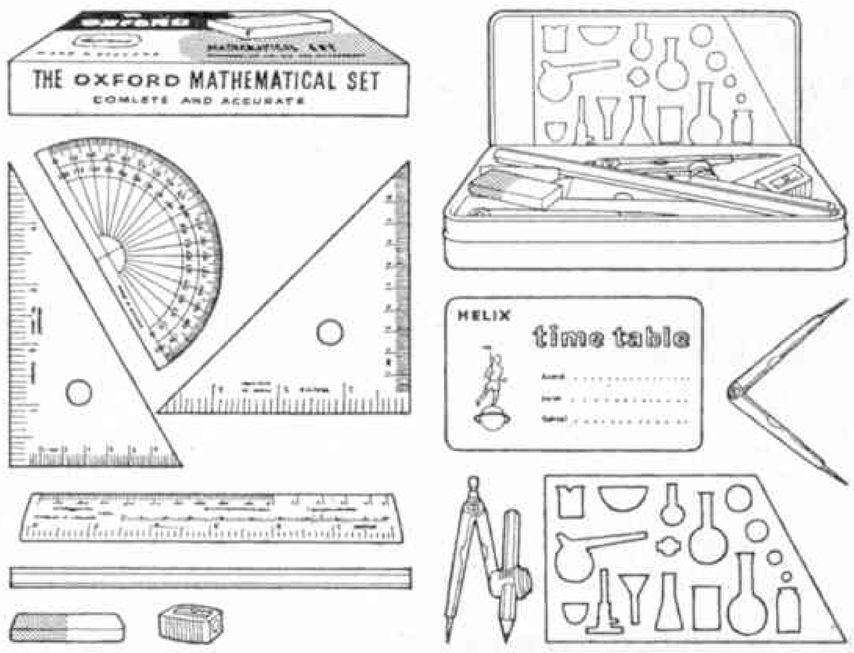

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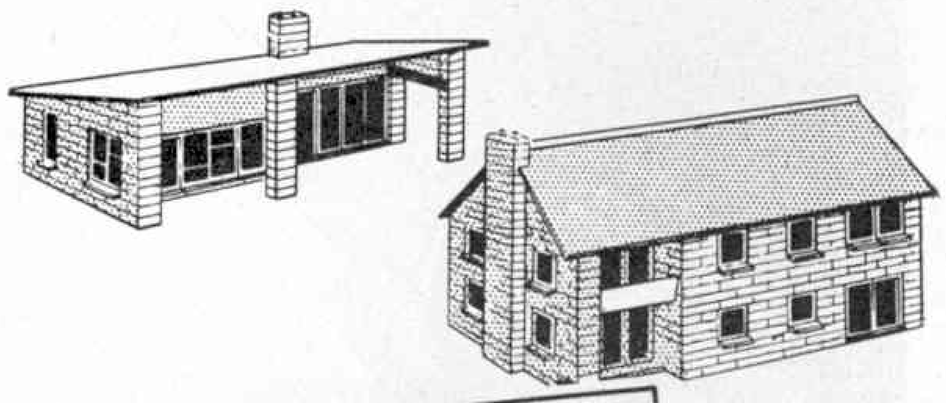
What exciting up-to-date building you can do with Contemporary Brickplayer. Each Kit contains real bricks, real cement and a wide range of models to build with them. Designed to '0' gauge scale by architects to look exactly true to life. Roofs, windows, doors, plans, full instructions—everything's complete. You can make permanent models or dismantle them and re-use bricks and other components.

CONTEMPORARY BRICKPLAYER KITS
A—19/11; B—29/6; C—55/-



CONTEMPORARY BRICKPLAYER

WIN A PRIZE! £21·0·0 £10·10·0 £5·5·0
also consolation prizes are offered in the **BRICKPLAYER** contest

At good toyshops, hobby shops, departmental stores, etc.

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meccano magazine

August 1964 Vol. 49 No. 6 Published monthly

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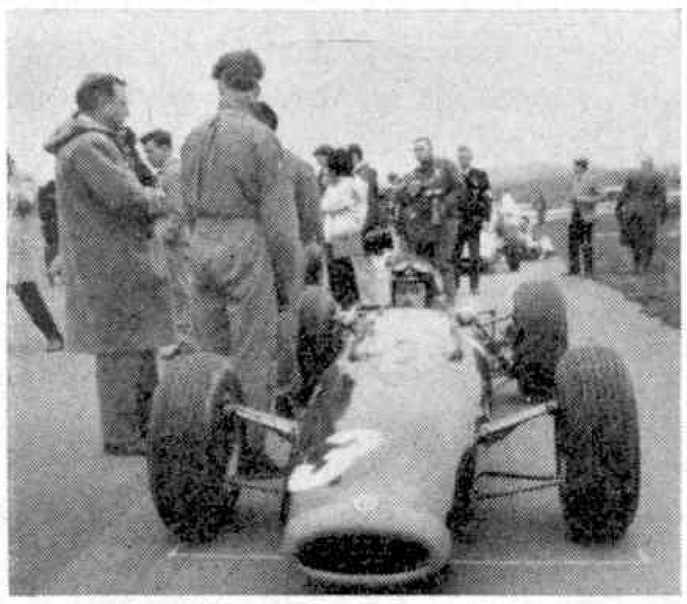


COVER PHOTOGRAPH

Ready to race! Graham Hill warming-up the Formula One B.R.M. This car is a strong challenger for this year's Formula One World Championship. A sectionalised drawing of the B.R.M. may be seen on page 17 in Jerry Ames' article about the British Grand Prix.

Win a camera

HOW would you like to win a brand-new Kodak Instamatic Camera? The latest and greatest in precision built cameras which has simple time-saving cartridge loading, an exposure control which automatically sets the aperture according to light conditions and instant focusing from 5 ft to infinity. Where ever you go—to cricket matches, places of interest, football matches, to the homes of friends and relatives—you could take photographs to record the occasions. In fact, it could be the beginning of a most absorbing and interesting hobby!

The problem is, of course, how do you obtain your Kodak Camera? Well, on page six of this month's Meccano Magazine, you will find a super, easy-to-enter competition, the awards for which are NINE brand-new INSTAMATIC CAMERAS—every one ready to take photographs of your favourite subjects. All you have to do to enter this FREE competition is select the best of your holiday snapshots, featuring people, places or pets, and send them to the magazine. Full details and instructions on how to enter are given on page six. Don't delay—YOU may win a wonderful Kodak Camera or one of the 150 consolation awards, so enter the competition NOW!

Come and see us

If you are interested in model-making of any nature, be sure to make a note of this date—*AUGUST 11th to 15th.* During these five days, the *10th Model Railway and Transport Hobby Show* is being held at the *Central Hall, Westminster, London.* Meccano Magazine has already booked a stand at the exhibition and if you decide to visit this model and hobbies showcase, don't hesitate to come along and see us. We will be delighted to meet you and hear your comments about the magazine, especially any ideas you might have on how we may improve *your* magazine. Don't forget the date and the staff of the magazine look forward to seeing you at the exhibition.

By the way, if you're interested in veteran cars, there is a grand exhibition of these old-timers of the open road at Crystal Palace on Sunday, July 19th, at 11 a.m. Admission is *free* and if you live in or around London, a visit to Crystal Palace to see these remarkable old cars is well worth while.

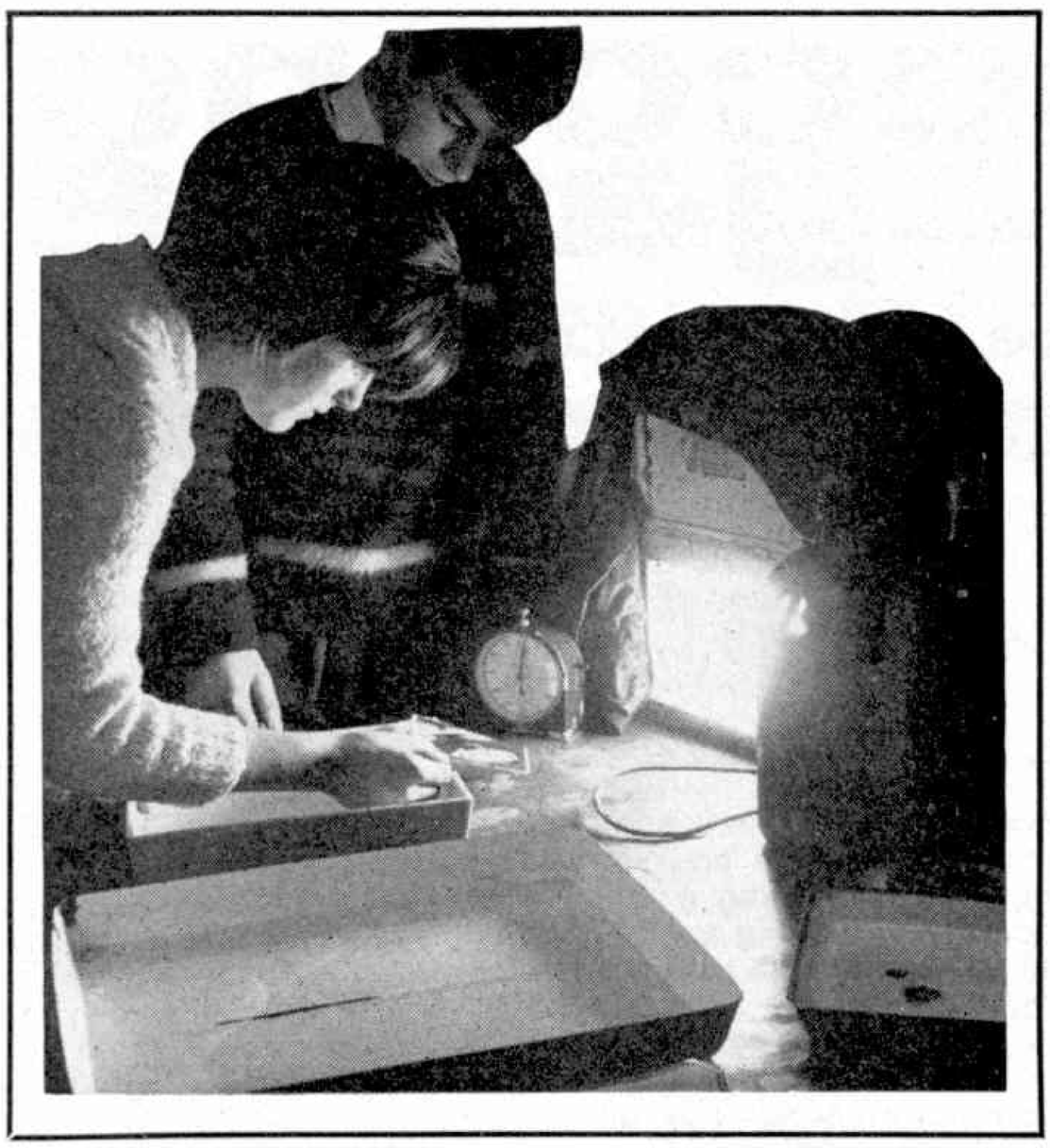
Another supplement

Racing of any nature is always exciting and next month, in Meccano Magazine, we are going to feature a special twelve-page supplement on Model Cars and Raceways. This section will contain information about many of the model Raceways on the market, details on how to convert a model car to Raceway specifications, ideas on how to start a model car collection, plus the facts about Model Car Racing clubs.

If you or your friends are interested in model cars of any type, next month's issue of Meccano Magazine is a must! Place an order with your newsagent right away in order to avoid the disappointment of being told: 'Sorry, sold out!'

Ordering the Meccano Magazine overseas

Readers overseas can order the *Meccano Magazine* from Meccano dealers or direct from the publishers. The subscription rate for 12 months is the equivalent of 20/- sterling at the current rate of exchange.



For many people the most rewarding part of photography is making the prints, because it is then that they see the finished pictures. Last month, I described how to make negatives; this month, we go a stage further and show you how to make prints from your negatives.

PICTURE IT yourself-(2)

To CARRY out printing, you will need two printing dishes and a bowl of clean water, some developing solution, fixing solution and a packet of contact printing paper. In order to hold the negative and the printing paper in close contact, you will also need a proper printing frame. Another idea is to provide yourself with two pairs of plastic forceps, in order that you can put the paper into the developer and then into the fixer, without your fingers becoming stained or marking the prints.

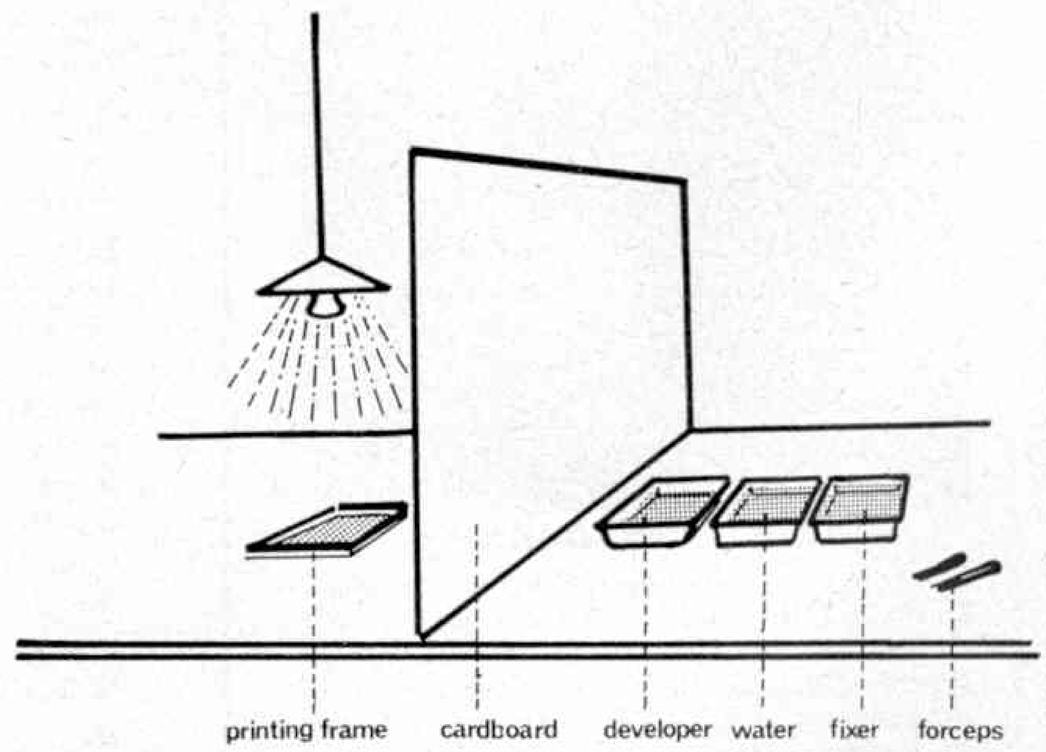
Unlike films, which have to be handled in total darkness or with a safety light, contact printing paper can be handled in a relatively dim artificial light. Ideally you should have a darkroom lamp that gives you a general orange light. However, if need be, you can work quite safely in a well-shaded corner of a room. Provided that the direct rays of the light do not shine directly on to the unexposed paper or the developing dish, you should be reasonably safe.

Your first print

To make your first print, take the back off the printing frame and lay the frame glass side down on the table. Make sure that the glass is free from dust and then take one sheet of the paper out of the packet and carefully close the packet. It is a good idea to keep the remainder of the packet in your pocket, then you are quite sure that when you move into the light the rest of the paper is not spoiled.

Take the first of the negatives you mean to print and place it on the glass of the printing frame with its dull side *uppermost*. Take your sheet of printing paper and place that shiny side *downwards* on top of the negative. Replace the back of the printing frame and clamp it firmly in position. You are now ready to make the exposure.

You will have to time the exposure carefully in seconds, as it may be necessary for you to make an adjustment to the length of the exposure when you see the result of your first attempt. Cover up the front of the printing frame with a piece of cardboard and take it towards the



The simple layout of equipment needed to provide contact prints of your own negatives at home

light, remove the cardboard and allow about 10 to 15 seconds exposure, before replacing the cardboard and returning the frame into the dark.

It you are always careful to keep the frame and the light the same distance apart when you make the exposure, you will be able to make exact adjustments in the exposure times.

The next step is to remove the paper from the printing frame without touching the exposed surface and, using the forceps, plunge it under the surface of the developer solution face upwards. Keep agitating the print in the developer for approximately one and a half minutes. During this time the picture should materialise on the paper. If it is too light, don't attempt to develop it longer, you will only get a stained print. If it is too dark you will not save it by pulling it out too soon.

If it is too light, it means that you will have to expose the print for a longer period of time before the light and if it is too dark, it means that it is over-exposed and needs less time before the lamp.

Fixing your print

Once you have managed to judge the correct exposure time and your print is perfect in the developer, take it out of the developer and give it a quick rinse in the bowl of clean water. Next, plunge it into the fixing solution and agitate for a further 5 to 10 minutes to ensure that it is properly fixed.

It is vitally important that the print be agitated frequently in the fixer, for if not it is likely that any developing solution which is not washed away will cause brown stains on the surface of the picture. Also, if you are making a number of prints at the same time, don't let them stick together in the fixing bath. If they do, you will find that the ones in the middle will not be properly fixed and once again will discolour.

Finally, as with your films, you will have to wash all the developer and fixer off your prints before drying them. You can best do this by putting all the prints together in a large enamel or earthenware bowl in the kitchen sink and letting the tap run steadily into one side of the basin so that they swirl round and round.

Once again, watch to see that none of the prints stick together or to the side of the basin. Keep them moving about and wash them for at least 20 minutes to half-an hour. At the end of this time take them out, blot them carefully and lay them face downwards on a sheet of clean, white blotting paper. In fact, one can even lay them on several thicknesses of clean newspaper. Within a few hours, providing the room is fairly warm, the prints will be quite dry and ready to handle.

Enlarging your prints

For a beginner an enlarger is a fairly expensive proposition, but it is something to which you will eventually aspire. However, if you want to make a postcard size picture from your 35 mm. films, then there is on the market a comparatively inexpensive enlarger called the Johnson Jumbo Postcard Enlarger. This only costs £2 4s. 9d. and is just as easy to use as a printing frame. There is nothing to adjust and nothing new to learn.

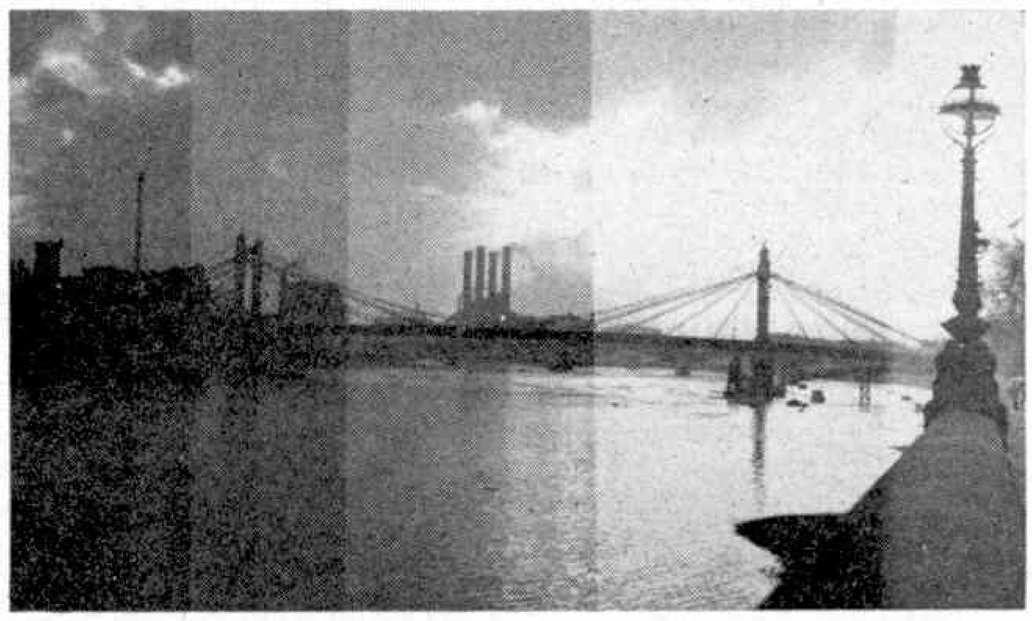
A shaking camera, a badly focused camera or a moving subject—all cause blurred photographs! Can you tell the difference between these faults simply by looking at your prints? If not, you will be interested in next month's Camera Angle, when we show in detail these very common faults and how to cure them.

There are two models of the Jumbo Enlarger, one of them especially for 35 mm. film and the other for larger negatives up to $2\frac{1}{4}$ by $3\frac{1}{4}$ inches.

One simply inserts the negative at one end and the printing paper at the other and then exposes it to the light in the same way as with the printing frame.

The instructions given in this article show how easy it is to do your own photography at home. If you would like to learn more about it, go to your local photographic dealer and buy a copy of the book *Home Photography*. It costs three shillings and tells you in simple language almost everything you need to know about photography.

However, as the past two features have dealt with developing and printing your film, you might like to add to the information we have given in these articles by purchasing a book which deals specifically with this subject. One of the most comprehensive and very inexpensive is, 'All Your Own Work', a Kodak publication which only costs two shillings. Kodak have, in fact, a vast range of instructional books which deal with all facets of photography including home movies, colour photography and transparencies.



A test strip shows how to obtain the correct exposure from an enlarger. The five graduations in lightness on the print are obtained by uncovering the print paper below the enlarger at five second intervals. The lightest area is five second exposure, the correct exposure is ten, the next fifteen and so on. A test strip saves you paper

The Johnson Jumbo Postcard Enlarger is as simple to operate as the contact printer frame and is available for 35 mm. or $2\frac{1}{4} \times 3\frac{1}{4}$ inch negatives.

FREE!

9 Super KODAK CAMERAS plus 150 other awards

Enter this **meccano magazine** Photographic Competition

HOLIDAY TIME is photo-time! YOU may win a brand-new Kodak Instamatic Camera by entering your holiday snapshots in this FREE competition! There are three sections to enter—PEOPLE, PLACES and PETS, with each section having a First Prize of a marvellous Kodak Instamatic 300 Camera, a Second Prize of an Instamatic 100 and a Third Prize of an Instamatic 50 Camera. There are also 50 films to be won as runner-up awards in each of the three sections!

How to enter

You may enter one, two or all three sections of the competition, so you have three chances of winning any one of the wonderful awards. However, entrants are only allowed to win one prize.

When you have decided upon the photograph you are going to enter for the competition, fill in the details required on the coupon below, cut it out and stick it on the back of your photograph. If you are entering more than one section—ensure that your name, age, address and photographic section appears on the back of *ALL* of your entries. If not, they will not be accepted for the competition. The maximum size of prints acceptable is 6 in by 4 in and the competition is for black and white photographs only. Do NOT send colour prints or transparencies. **The competition is open to persons who will be under the age of 17 on September 1st, 1964.** The judges, who will be the Editor and Art Editor of Meccano Magazine, will take age and the composition of the photograph into consideration when deciding the winning entries. The judges' decisions will be final and no correspondence can be entered into. Photographs will not be returned unless a stamped, addressed envelope is included with each entry. Prize-winners of major awards will be announced in a future issue of Meccano Magazine.

PEOPLE / PLACES / PETS
(Cross out sections not entered)

Name .....
(Block Capitals)

Address .....

.....

.....

.....Age.....

If I win a consolation award I require a ..... size film.

ENTRY FORM

Three sections to enter are People, Places and Pets

All entries should be sent to:—

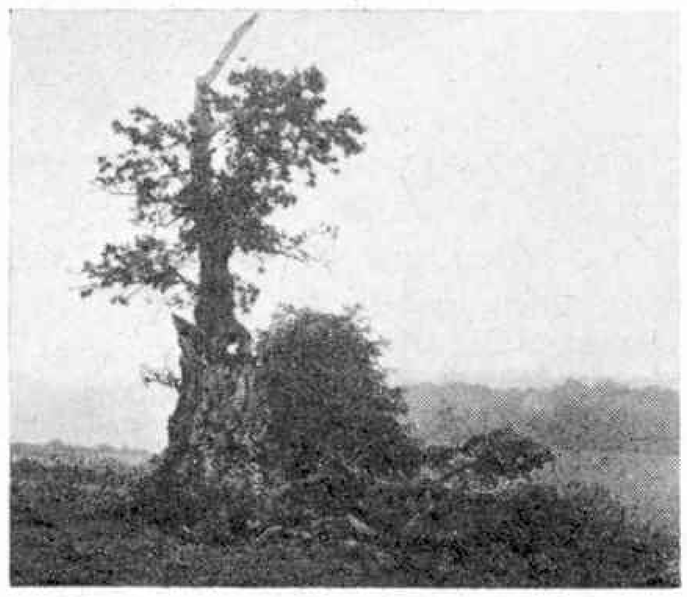
Summer Photo Competition, Meccano Magazine, St. Alphage House, Fore Street, LONDON, E.C.2

The closing date for entries is September 1st, 1964.

mailbag

Anything interesting . . . write about it to the editor

■ *THE NEWLAND OAK*—Some years ago, a photograph of the Newland Oak, long famous as the stoutest tree in all Britain, appeared widely in the London Press. This renowned veteran, standing in a field west of the village of Newland in West Gloucestershire, about the former limit of the Forest of Dean, lost its special primacy when a great part of the shell, which measures 44 ft 8 in in girth at a distance of five feet from the ground, collapsed some years ago. Happily the collapse did not involve one still-living part: even now the Newland oak is far from dead—as our photograph taken in September 1963, shows. On the left is the still upright and living part of the tree; on the right is an elder bush growing on part of the collapsed ruins. There is no way of estimating the age of such a tree as this. If anyone says, 'It is probably 1,000 years old,' the statement is not obviously absurd, but it cannot be supported any more than it can be rebutted. I do not know of any oak likely to be older. *P. Stephens, Minehead*



The stoutest tree in Britain.

■ *WORKING OXEN*—Twenty-four years ago, in May 1940, I had permission to photograph the last working oxen in England — Lord Bathurst's beasts in Cirencester Park, Gloucestershire. While pushing my bicycle up the Grand Avenue (I was not so disrespectful as to ride!) I was challenged by an estate employee who was eventually satisfied with my credentials: it was a time of grave war jitters. But, as I looked young and humble, he ticked me off for going up the Grand Avenue and indicated that I should have been on some less spacious, less dignified track.

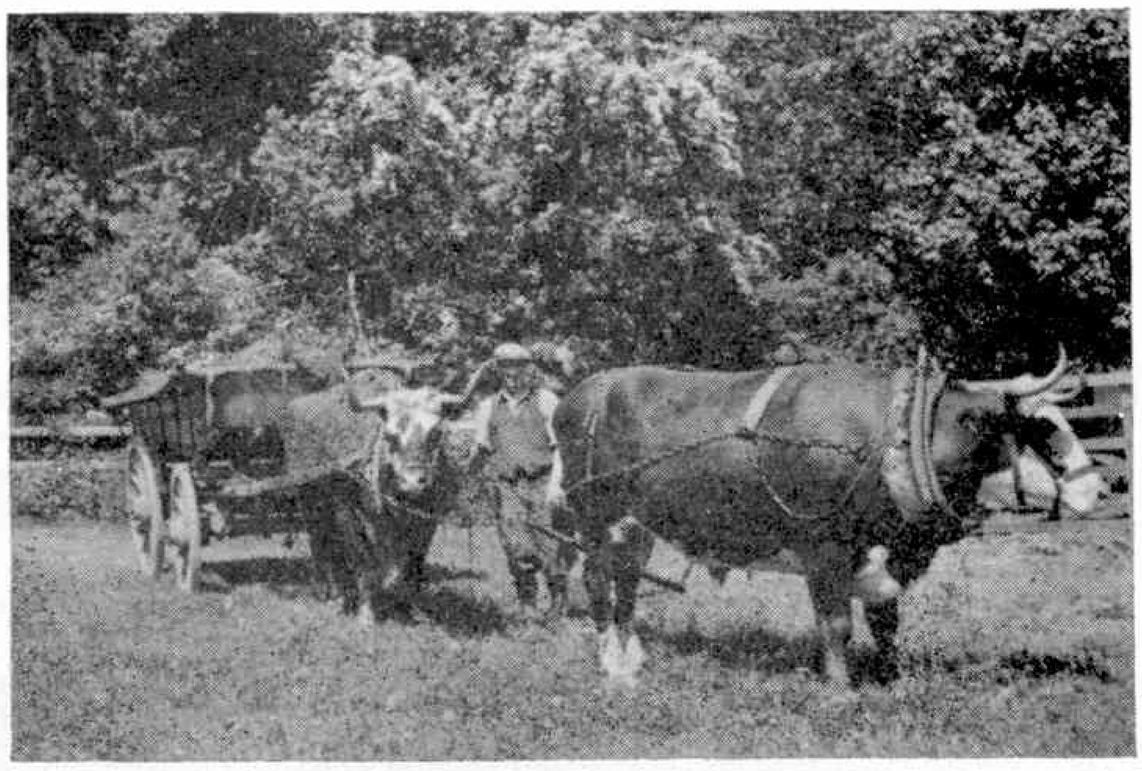
The oxman there, Mr. Smith (now retired) kindly helped me to get photographs. This Spring came news that the last two oxen, 15 years old and therefore of post-war breaking, had been put down. The news recalled that bright May morning of 24 years ago, my encounter in the park, and the fact that I still had a photograph taken on the last estate to employ oxen. *J. D. Ward, Minehead*

■ *CHELTENHAM CURIOSITY*—At the southern end of the Promenade at Cheltenham, outside the Queen's Hotel, is this strange sight, an empty plinth with ornate Victorian ironwork. The inscription says, 'Taken at Sebastopol 1856'.

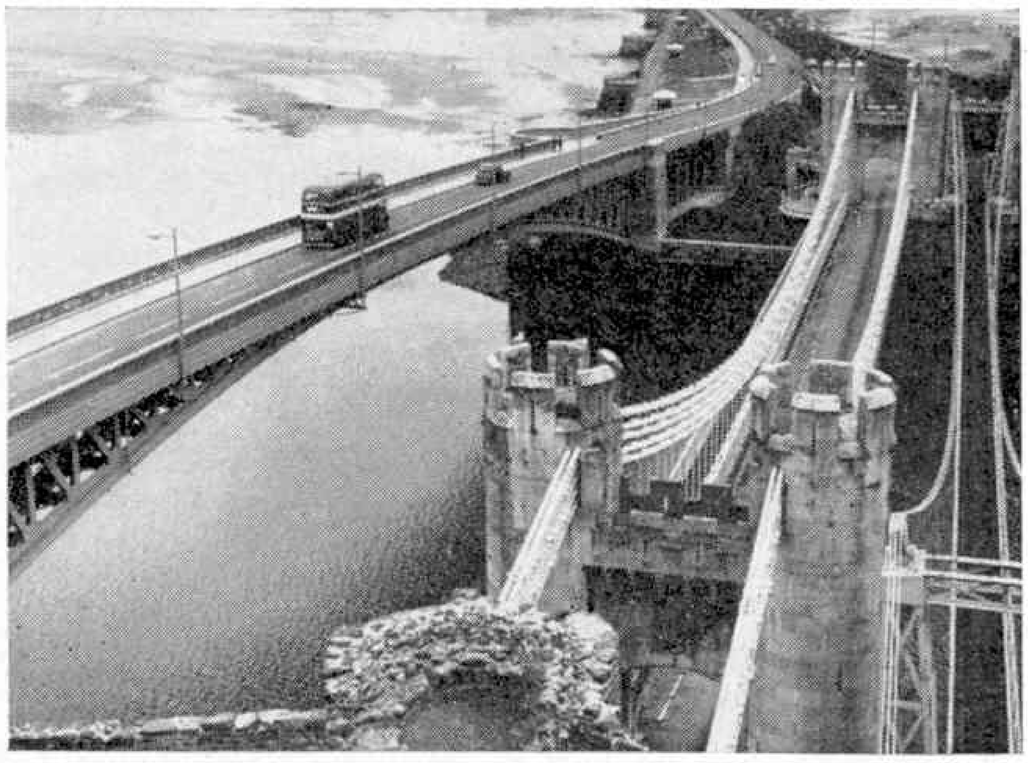
Actually, Russian guns stood there until 1942, when they went for salvage, but 22 years later the wording still remains. *Reece Winstone, Bristol.*

■ *CONWAY BRIDGE*—Telford's graceful 138-year-old suspension bridge at Conway is in the balance. It may well have to be dismantled and sold as scrap. As it is, only pedestrians can use it; furthermore, it needs annual attention such as painting, all of which costs money. Immediate repairs are said to be necessary, but the people of Conway are not over-keen on spending big initial sums on keeping the bridge and then facing an annual bill for upkeep and paintwork. The cost of dismantling by a team of experts would be about £40,000. The problem is to know what to do for the best. A solution to the problem might be for some interested body to acquire the bridge and keep it as a monument to the greatest bridge building of all times, even if it means taking it away from Conway. But wouldn't this well-known scene look terrible without the old bridge? *E. Emrys Jones, Old Colwyn, N. Wales*

There it is—gone!



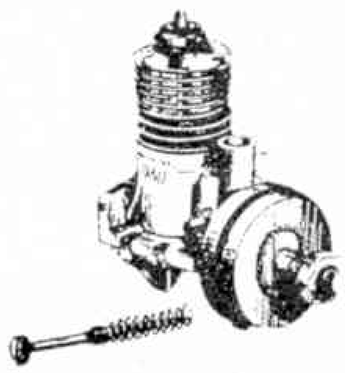
The last of the working oxen of England.



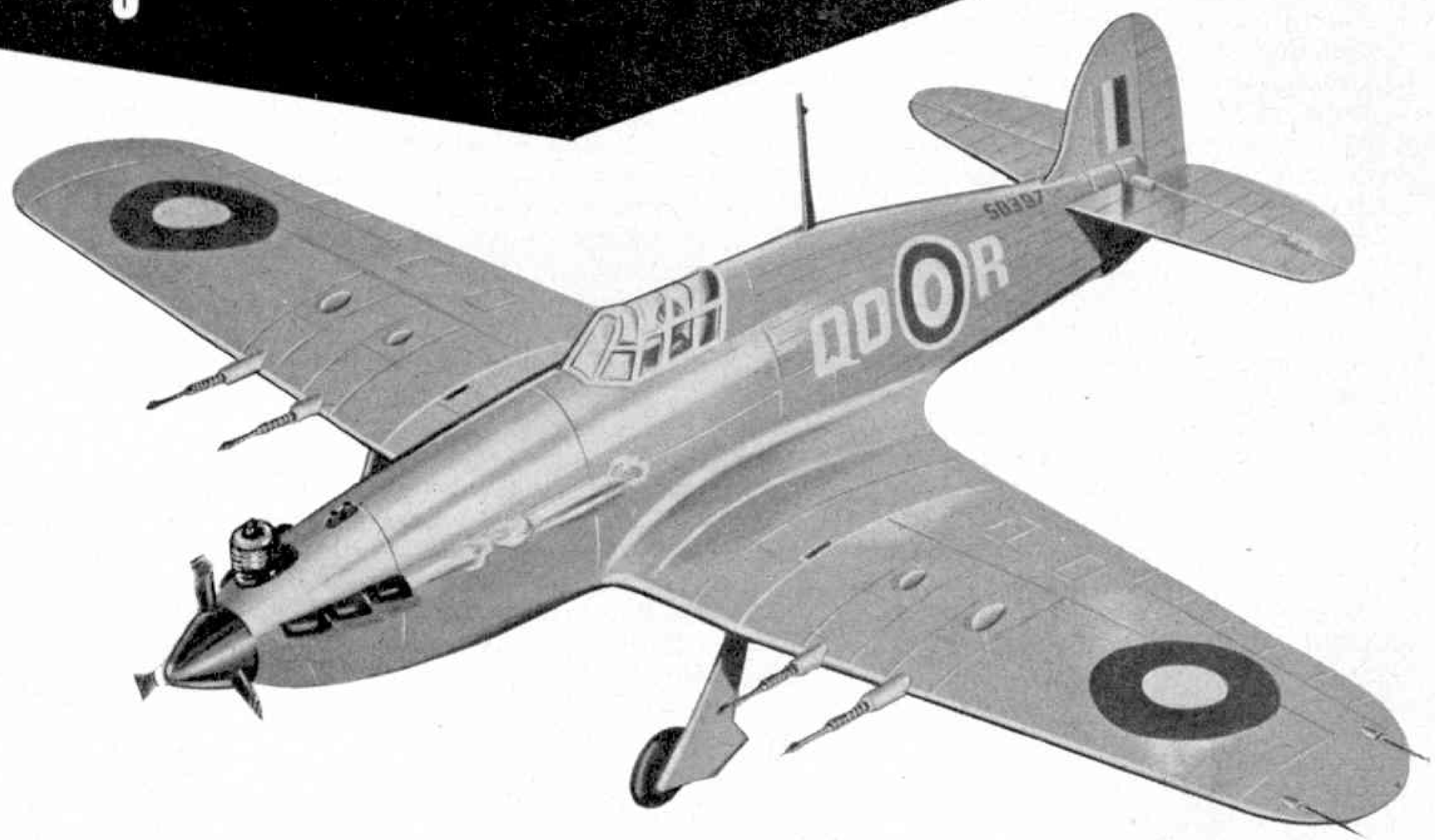
In suspension for over 138 years.

KEIL KRAFT

Ready-to-Fly HURRICANE



Fitted with the
WEN-MAC
·049 ROTOMATIC
ENGINE



For hours and hours of flying fun

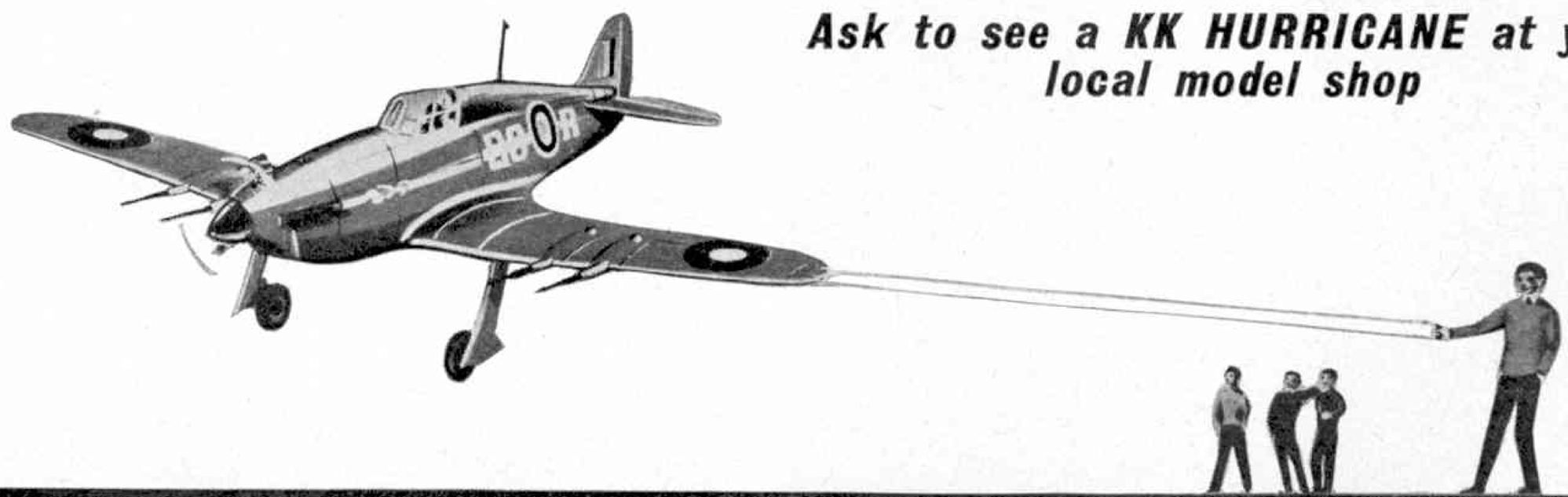
A fine realistic model moulded in high impact plastic. Features clear plastic canopy, exhaust manifolds, four cannons, radio aerial and authentic insignia.

Fitted with the very successful WEN-MAC ·049 glowplug motor on nylon mounting and with 3 bladed nylon propeller.

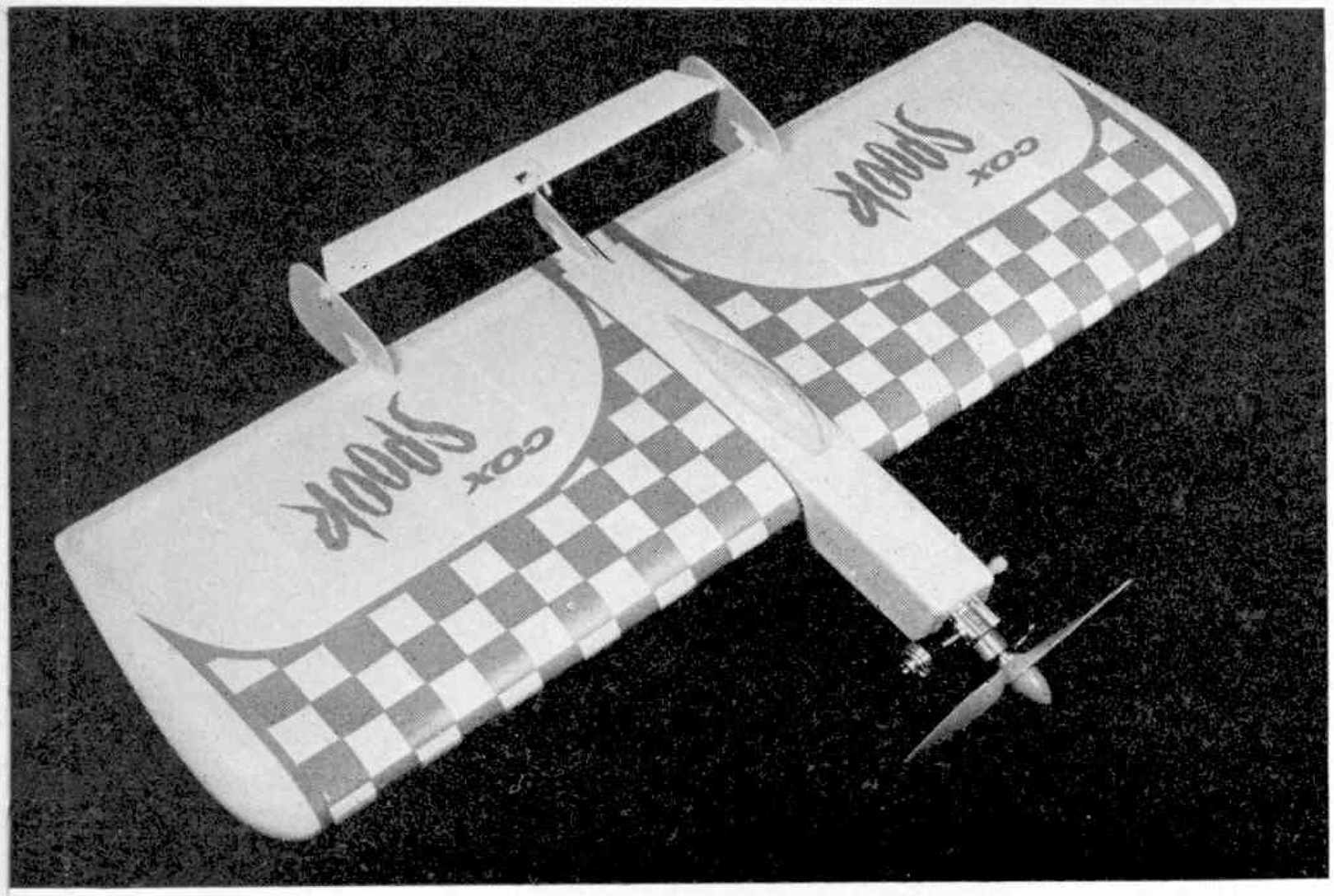
Complete in attractive carton with control line handle, Terylene lines, glowplug clip, lead, battery plug and full instructions.

£4-19-10 COMPLETE INC. TAX

Ask to see a KK HURRICANE at your local model shop



A plastic model that really FLIES!



by **John Atkinson**

Control-line flying is perhaps the most satisfying of all aero-modelling in that you have full command of your model. Already we have shown the principles of control-line flying and now, John Atkinson, shows how to construct the plastic, ready - to - assemble Cox Spook. This complete kit costs only 49s 9d.

THE SPOOK

. . . under control

THE COX SPOOK control-line model is really extremely simple to make provided all instructions given with the kit are followed implicitly. Although all parts are completely ready to assemble and the kit is made of plastic, the model is still assembled in a very similar manner to conventional balsa and tissue models. No cement is included in the kit and therefore you must buy a tube of polystyrene cement before you can start building. It should be the 'solvent' type, in order to soften the surfaces to be joined and literally weld them together. Some plastic cements have this welding property to a greater degree than others. Balsa cement is quite useless for the plastic parts of this model.

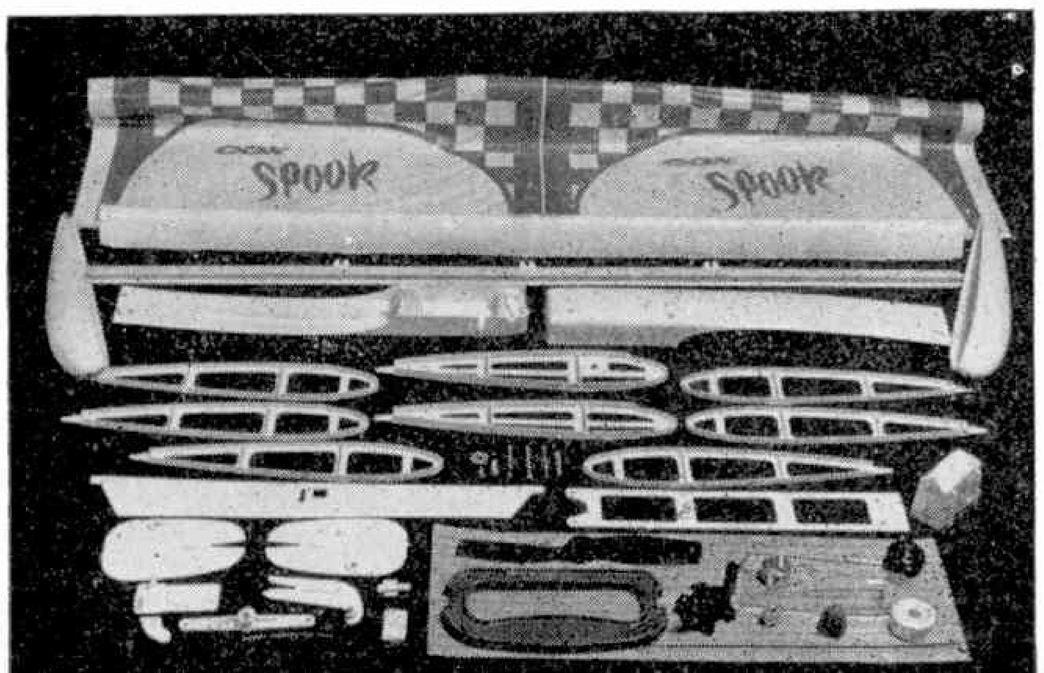
The actual assembly of the Spook is very simple but do not be tempted to rush ahead just because you think you can guess where a piece fits. The instructions given with the kit are very detailed and you should read each assembly stage carefully before carrying it out. There are sometimes several possible ways of joining two parts together—only one of them is correct! Some of the parts when removed from the moulding stems will be found to have a slight roughness at the attachment point. It is best removed by scraping with a knife holding the blade at right angles to the surface. This is better and faster than sandpapering the parts smooth.

The instructions recommend a small brush as a cement applicator. This is a good tip and should be followed as it simplifies assembly and ensures strong joints. The initial assembly of wing tips, leading and trailing edges can be held with strips of Sellotape until the cement dries. Great care should be taken when making up the fuel tank. The parts *can* easily be incorrectly fitted together and too much cement will completely ruin the job. On the other hand, too little adhesive will result in a leaking tank, so take extra care here. Incidentally, it is best, when cementing the tank side in place, to run the cement round the recessed edges of the flat side rather than round the main tank body.

The plastic (pre-decorated) covering supplied is attached with strips of double-sided adhesive tape. This may sound crude but it works very well provided great care is taken to follow the exact recommended procedure. I found it necessary to stretch the covering very tight in order to achieve a good smooth wrinkle-free job. Cover the underside first and any initial mistakes you make will thus be less noticeable. Once stuck it is difficult to remove the covering, so it is a first time or not at all operation.

You will find it necessary, when attaching the three fins

The complete Cox Spook kit showing all components including the propeller, control-line, control-line handle and special engine mounting.



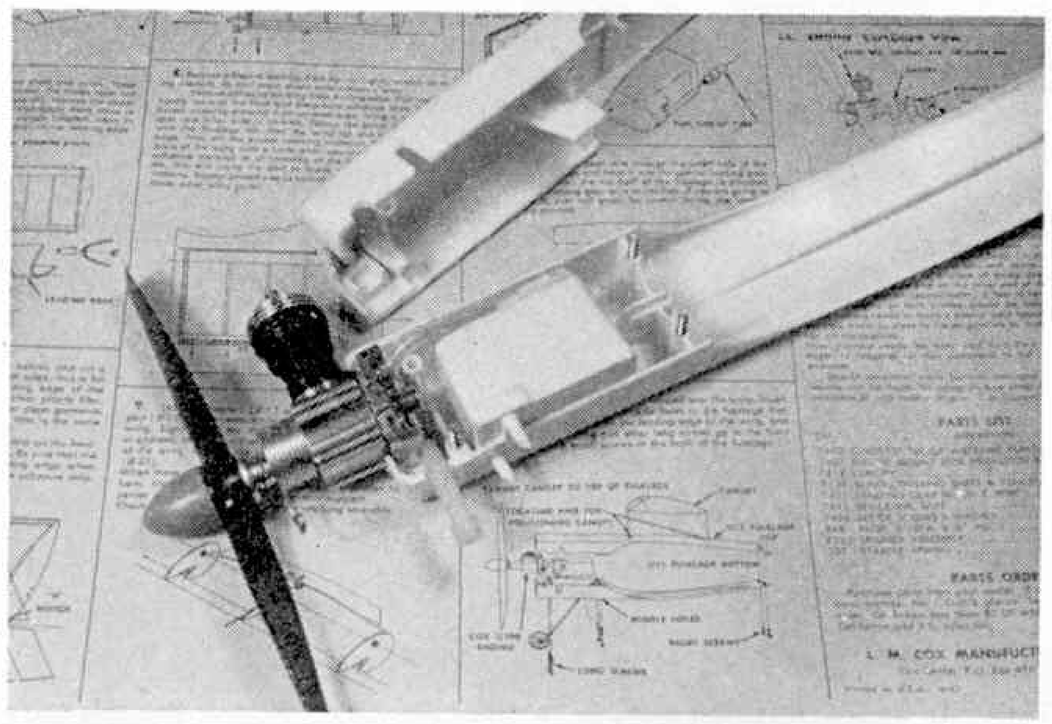
to remove a small area of adhesive paper and plastic covering where the fins are to be cemented to the wing trailing edge, otherwise they will not 'seat' properly.

The special 'Spook' engine (not supplied with the kit) does not need screws to fit it in position. It is simply slotted into one fuselage half and is secured when the other half is positioned over it. Certain other engines can be used by employing the special beam mounting adapter supplied with the kit. When bolting the fuselage halves together, take care not to strip the threads, as they are cut in the plastic by the self-tapping screws. This is likely to happen, especially with the two small screws in the fuselage rear end.

The kit, besides all the materials for the model itself, also contains a control line handle, nylon control line, nylon propeller and a recoil spring engine starter. The nylon control line works well enough, but its natural stretch results in an imprecise 'feel' to the model's controls. It is far better to use steel control lines as described two issues ago.

Flying the Spook is exciting and it will truly perform almost any manoeuvre, unlike the majority of finished plastic models, which tend to be too heavy and under-powered to do much more than fly around and do occasional steep climbs and dives.

Repairing, when necessary, can be done with pieces of 30 gauge Plastikard. This is a white plastic sheet sold for railway modelling! Reinforcing plates of Plastikard are cemented over any cracks with polystyrene cement and should be allowed plenty of time to dry before the model is again flown.



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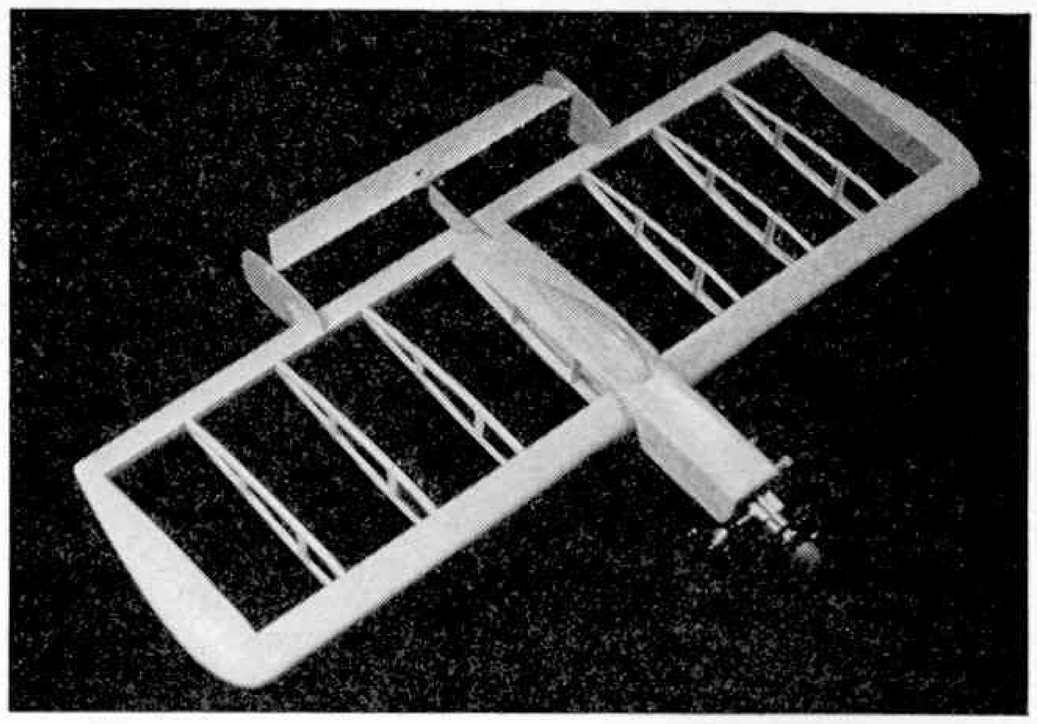

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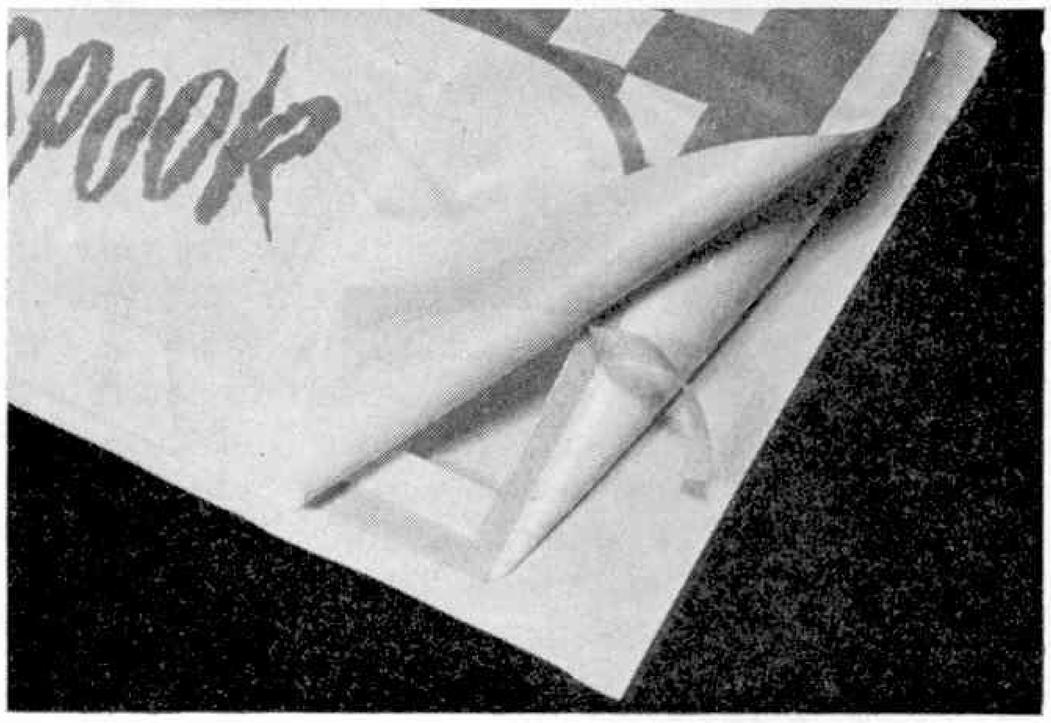

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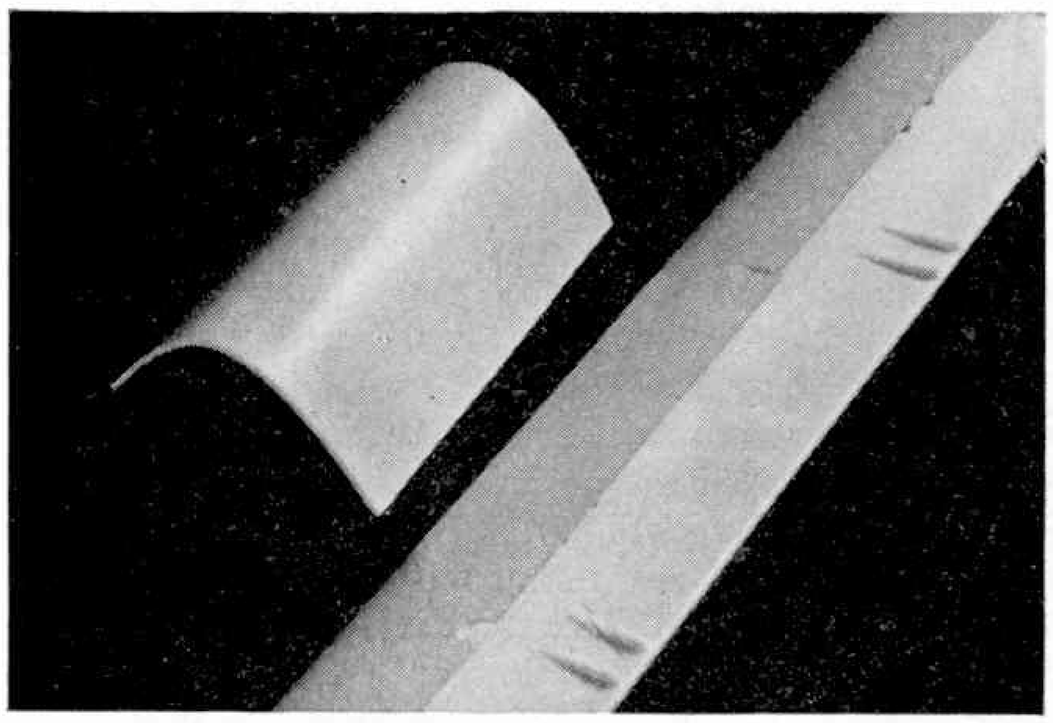

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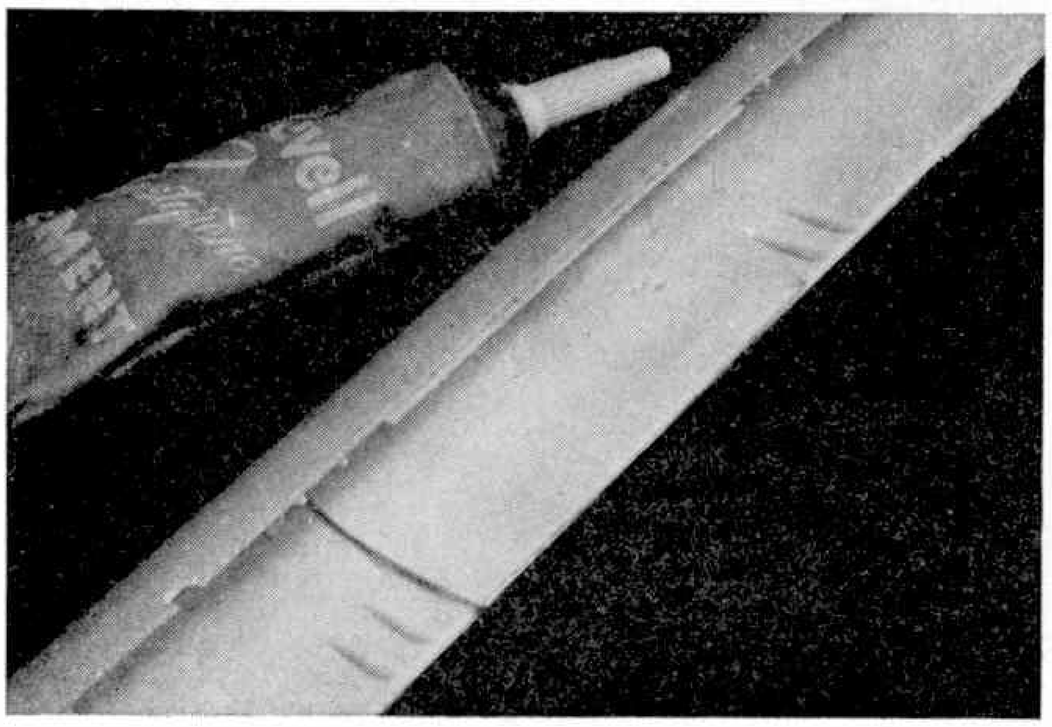


5

1 The Cox Spook engine installed and connected up to the plastic fuel tank. Top fuselage half is shown removed. Note fixing screws protruding.

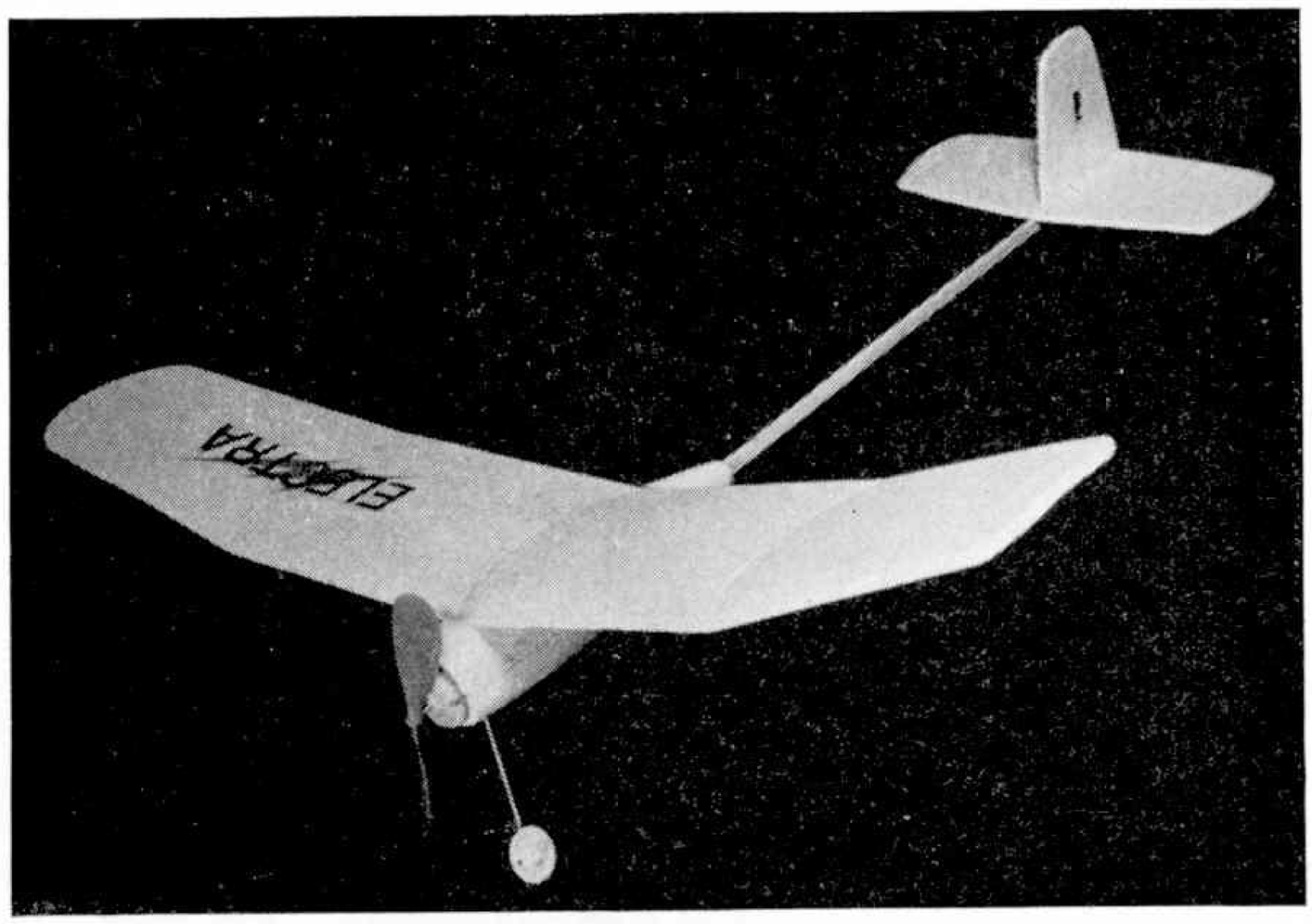
2 The Spook framework ready for covering. Note how careful design of components has resulted in extreme simplicity of the structure.

3 The plastic pre-decorated covering is fixed in place with a special double-sided adhesive tape. This job must be done right first time.

4 A piece of 30 gauge Plastikard is cut and prebent to repair a cracked wing leading edge.

5 The Plastikard is used as a reinforcing strip cemented inside the damaged component as shown.

by **John Atkinson**



THE ELECTRA

...electric powered flight

UNTIL A FEW years ago, the electric powered model aeroplane was thought to be a practically impossible proposition. Recent developments have, however, completely altered the picture. Undoubtedly the most important is the appearance of the water-activated Silver Chloride battery.

This extremely lightweight power source (1/10th of an ounce per cell) has at one blow eliminated the biggest single snag to electric flight—the bulky, weighty and comparatively expensive dry battery. Allied to this development, expanded foam polystyrene has enabled a moulded airframe to be cheaply produced. Such an airframe made of 'conventional' balsa and tissue would be extremely flimsy, with the inevitably weighty electric motor making the whole thing very prone to impact damage and unsuitable for mass appeal.

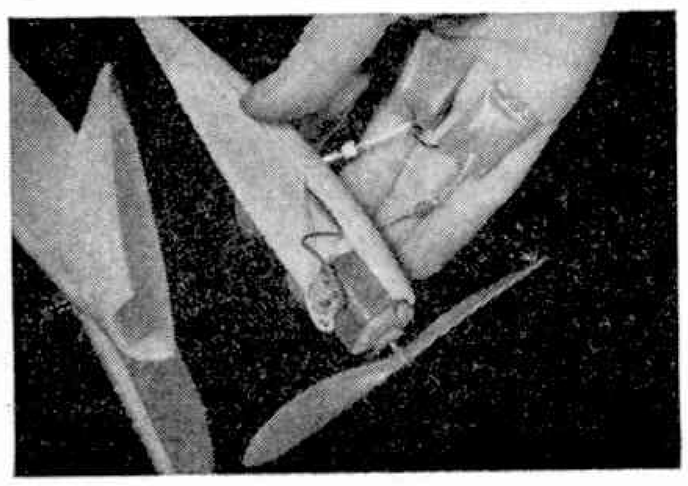
The Japanese with their low labour costs have been able to take full advantage of the situation and have produced the first kit for an electric free flight model, complete with a special electric motor.

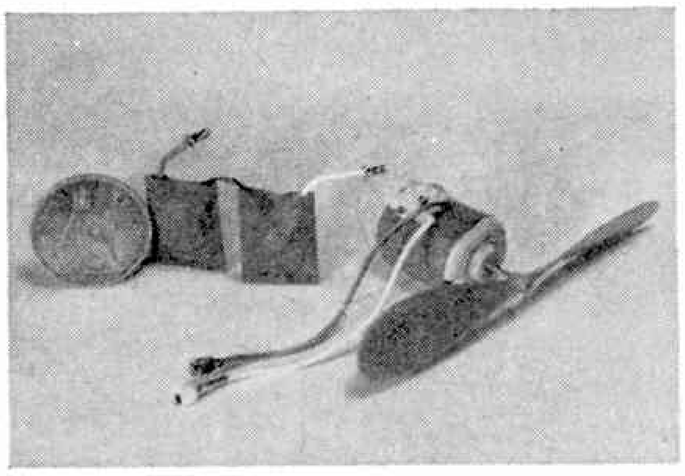
The span of this interesting model, the 'Electra', is 19 in and on a calm day it will return quite long flights. One of the undoubted attractions of electric flight is its almost ghostly silence! It is also completely clean, since the only 'fuel' required is the salt water which is used to activate the batteries. This water is added immediately before launching the model. The power output then builds up quite rapidly, at which point the model is launched gently into the breeze. The special batteries can only be used once and a new set is needed for each flight.

Construction of the 'Electra' is extremely simple. Special cement is supplied with the kit and there are only about five joints to make. Parts are held together with small pins until the adhesive is dry, which takes about an hour. It is very important to avoid using any cellulose base products on polystyrene, including balsa cement and dope. These will completely dissolve the plastic and must never be employed. Should you ever have to repair expanded polystyrene and have no special cement to hand, P.V.A. white adhesive can be used with complete success. Unfortunately, the cement supplied with the kit is at present unobtainable as a separate item in this country.

Decoration of 'Electra' can be carried out with enamels sold for plastic kit painting, but go easy on it because a surprising amount of weight is added by such embellishment!

A spare propeller is supplied in this kit and should be taken along for the flying session since it is a vulnerable item and is very prone to breakage. Further propellers (7d) and batteries (6d) can be obtained from the British Distributors, Rip Max Ltd., 80 Highgate Road, London, N.W.5. The complete 'Electra' kit costs only 14s 11d.





The front fuselage "pad" holding the motor and batteries is assembled in two halves. The batteries, here shown connected up to the motor, are pushed into a slot in the fuselage underside and activated with salt water just before each flight. Note the pins holding the wing parts together whilst the cement sets.

Right: The works! Here are the special batteries alongside the electric motor showing the connecting plugs. Size can be gauged by the penny on the left.

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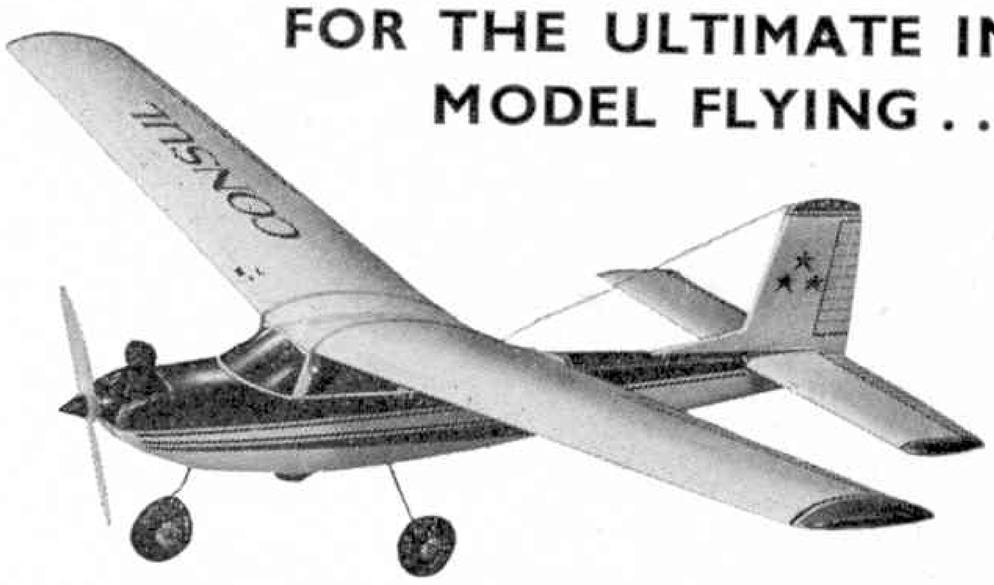

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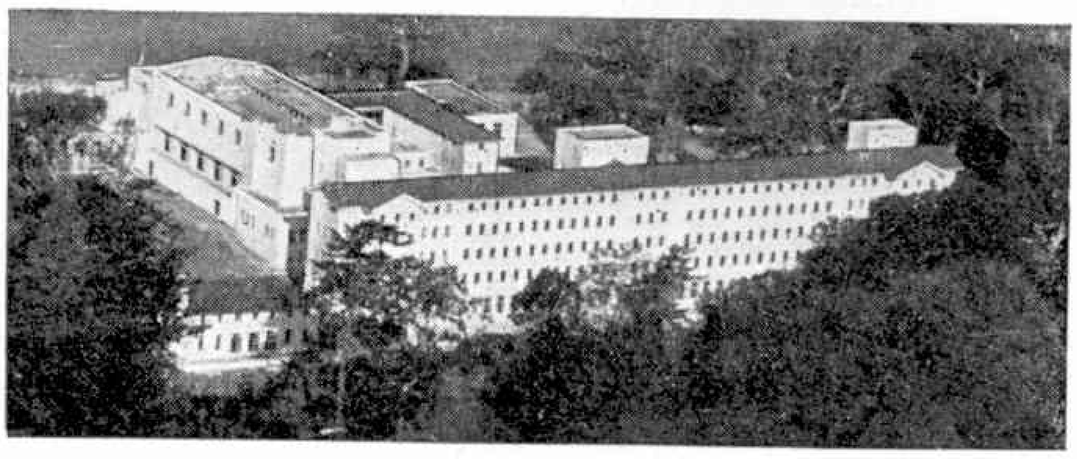

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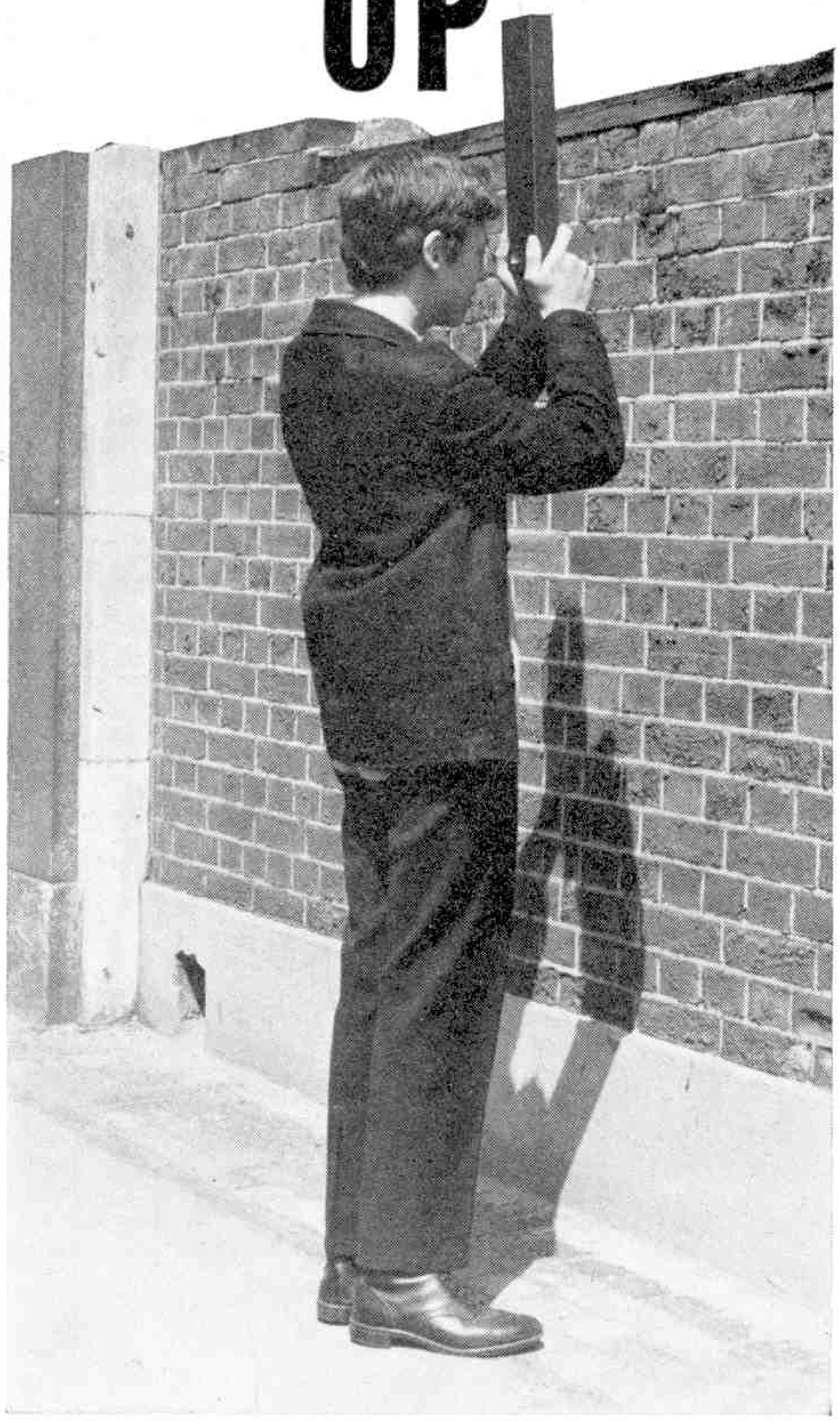
UP AND OVER ...



HAVE YOU ever found yourself in a crowd and unable to see over people's heads? At a football match or some other public function? If so, you will certainly find a use for a periscope. This, as you probably already know, is the instrument submarines use, when submerged, to reconnoitre on the surface.

Submarine periscopes, of course, are very complex optical instruments, incorporating lens' systems. However, a simple periscope may be constructed at home with a few easily and cheaply purchased materials. The following is the list of requirements:

Firstly, two identical mirrors. The ones used in the actual model illustrated were bought at Woolworth's. They cost fivepence each and measure 2 by 3 in. All the measurements given in the explanation that follows apply to mirrors of this size. Any two identical mirrors can, however, be used provided that all measurements are altered accordingly.

Secondly, you will need a sheet of fairly stiff cardboard. Bearing in mind that very thick cardboard is harder to cut and bend, don't choose anything too stiff. On the other hand, the stouter the board, the more rigid will be the finished article. The size of sheet required can be estimated from the diagram and should only cost about a shilling.

Thirdly, to finish the periscope, you will need half a yard of 18 inch bookbinding cloth. This can be obtained from most art shops in a choice of colours but, in view of the handling the periscope will receive, black is the most suitable as it doesn't show up the dirt. The cost should be between one shilling and one and sixpence, depending on the quality.

Apart from adhesive and tools, these are the only materials that are required. The total cost being approximately three shillings.

Constructing the Periscope

The periscope is made up in the following way. Draw on to the cardboard, using a sharp pencil and taking care to measure accurately, the three diagrams shown in Figure 1. If you are using mirrors measuring 2 by 3 in, follow the measurements given. If you are using mirrors of a different size, convert the measurements accordingly.

Next, when you have drawn the plans, cut round the outside edges. If the cardboard is not too stiff, this can be done with scissors, but for stouter card a craft knife will be needed. A craft knife will also be necessary for cutting out the windows. When using one of these knives, be very careful not to cut yourself and also make sure that you are resting the card on something that will not be spoilt when it is marked by the knife. (It may be advisable to consult your mother or father about this before you start.) The knife must be used in conjunction with a steel rule.

When you have cut out the three pieces and the two windows, you can proceed to prepare the creases. These are indicated on the diagram by dotted lines. You can do this by running your knife down the steel rule along the lines you have drawn. Do not press too hard as you do not want to cut right through the cardboard. When you have done this, you will find that by folding outwards a clean effective crease is made.

The next stage is to prepare the mirror mounts. Take pieces *B* and *C* and fold and glue as shown in Figure 2.

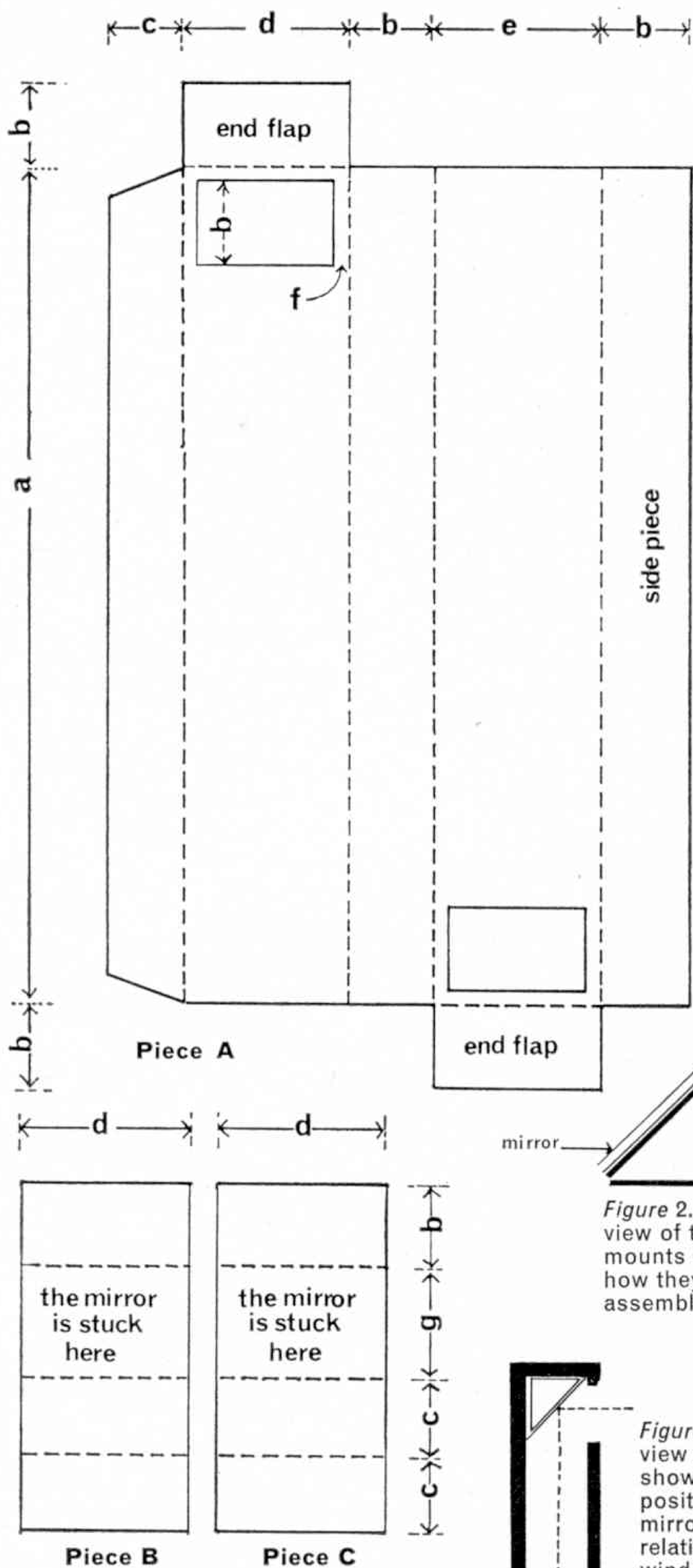


Figure 1. Piece A is the body of the periscope and Pieces B and C the mirror mounts. Draw the plans on to your sheet of cardboard. The continuous lines should be cut; the dotted lines are folds and should only be scored. The following is a key to the measurements:

a—15 inches
b—$1\frac{1}{2}$ inches
c—$1\frac{1}{2}$ inches less thickness of cardboard
d—3 inches
e—3 inches plus thickness of the board
f—$\frac{1}{4}$ inch
g—2 inches

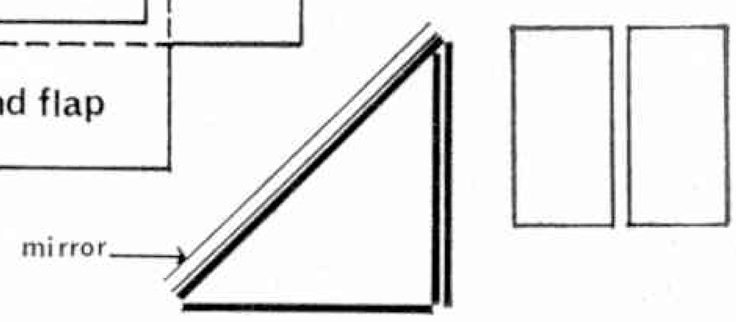


Figure 2. Side view of the mirror mounts showing how they are assembled.

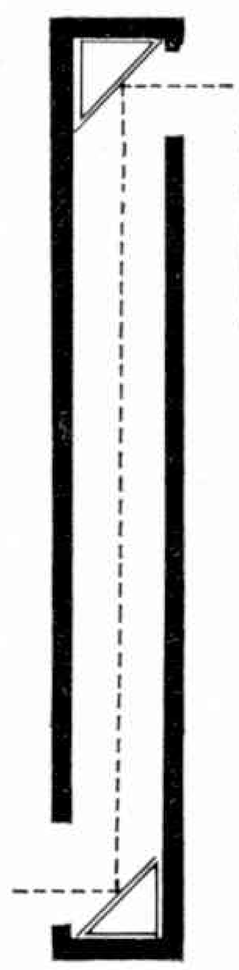


Figure 3. Side view of periscope, showing the positions of the mirror mounts in relation to the windows.

When the adhesive has stuck hard, take the mirrors and glue one on to each mount. It will be quite clear which is the right surface. Make sure you use a glue that will hold the mirror to the cardboard securely and that the mirrors are stuck on really hard before you move on to the next stage.

Now the mirror mounts may be stuck on to the main piece of cardboard. The positions are clearly indicated in Figure 3. When the glue has set, you can then proceed to fold the body of the periscope and if you have measured and cut everything accurately, you will see how neatly it all fits together. The flap should be tucked inside and stuck to the sidepiece (see diagram) and the two end flaps should be stuck to the bottom of the mirror mounts.

The final stage is covering the periscope with the bookbinding cloth. The pattern and measurements of the pieces are indicated in Figure 4. Work, of course, with the coloured side of the cloth facing down. In other words, draw on the reverse side of the cloth. When you have cut the pieces out, prepare all the folds by creasing them with your fingers along the lines you have drawn. Carefully stick the cloth round the periscope and you will have completed the work.

Remember that the more accurately you work in measuring and cutting, the neater and better will be your finished periscope. If you are very careless you may well find yourself in difficulties when it comes to the final assembling, so good workmanship is the key to success.

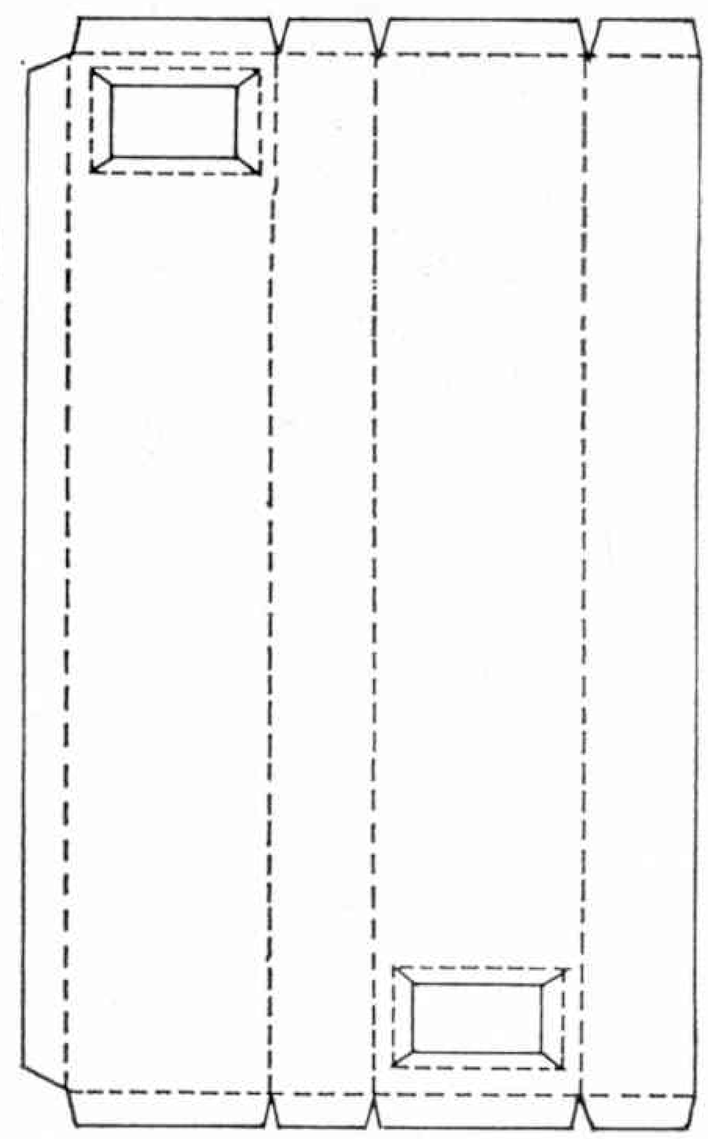


Figure 4. Plan for cutting the book cloth. Work with the cloth colour side down. To allow for small variations due to error during the making of the periscope, measurements have not been given. Instead, take the outside measurements of your periscope and draw up the plan on the bookcloth accordingly. As general guidance, the basic measurements should be the same as for the cardboard *plus an allowance of twice the thickness of the card added to each.* The flaps should be about $\frac{1}{2}$ to 1 inch wide and the apertures for the windows 1 by 2 inches, with slits as shown to enable the cloth to be bent inwards. The two pieces shown separately are end-pieces measuring $1\frac{3}{8}$ by $2\frac{7}{8}$ inches; they provide a neat finish.

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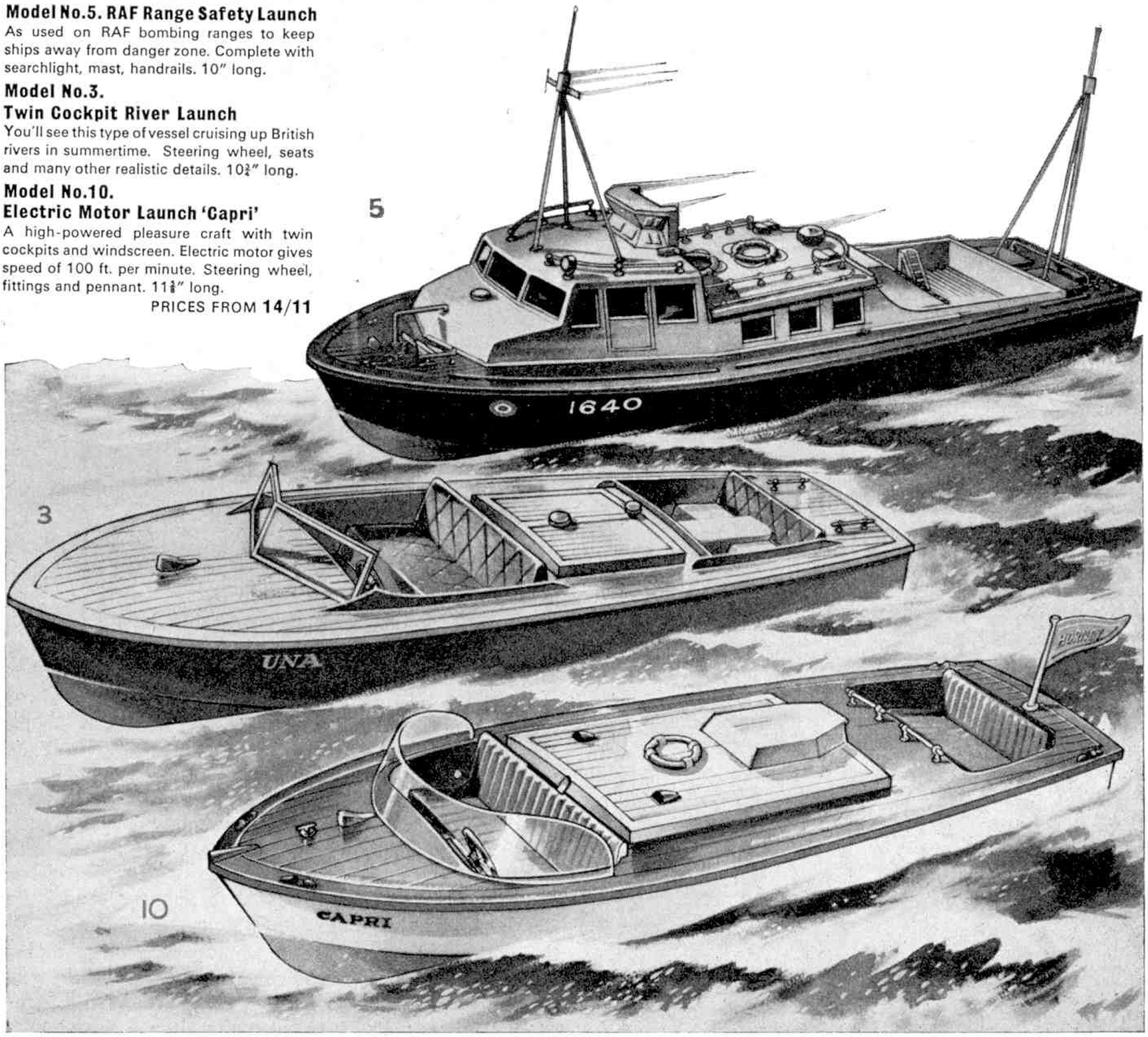

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by **Jerry Ames**

THE BRITISH

...from Brooklands

MANY YEARS ago, British manufacturers were considered back numbers in Grand Prix racing, but this didn't prevent the R.A.C. staging a British Grand Prix, even though they were not allowed to run it on public roads. The first British Grand Prix took place at Brooklands in 1926, but as it was unthinkable to run a Grand Prix purely as a track race, the organisers, with a little ingenuity, made up a sort of road circuit on the Brooklands track, using banks of sand to provide a twisty bit along the old finishing straight.

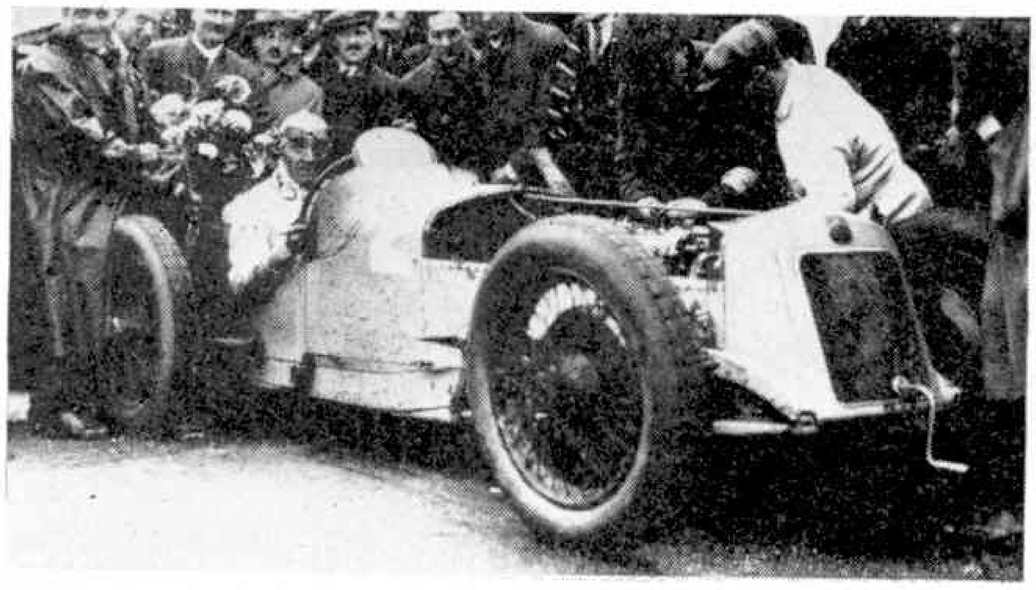
From there the cars turned left, swooped up the end of the members banking, just before it flattened out to become the Railway Straight. Then came a tricky turn on to the Byfleet Banking, followed by a slightly downhill run off the banking into the Finishing Straight. Here some pretty fierce braking was needed before attempting the first of two sets of chicanes, or artificial corners.

Entries were not plentiful, but nevertheless they were very interesting, for 1926 was the first year of a new formula for cars with engines up to $1\frac{1}{2}$ litres. Superchargers were also permitted and surprisingly carried no extra penalty. The two works teams, Delage and Talbot, brought along some of the great road racing drivers of their day, including Louis Wagner and Robert Benoist for Delage with Albert Divo and H. O. D. Segrave for Talbot.

Both of these machines had supercharged straight-eight engines, the Delage used twin superchargers, with the whole power pack being offset to give its driver a lower seating position. The Delage looked small in those days, but massive when compared with modern $1\frac{1}{2}$ litre Formula One machines. Painted in the French colours, blue with yellow wheels, the Delage was the most successful car of its day and the last French car to sweep aside all opposition in Grands Prix.

The Talbots were quoted as being British and to prove it were painted green. However, it was whispered with some truth, that they were built in the experimental racing shops maintained by Sunbeam, Talbot, Darracq in Paris; moreover most of their mechanics were Frenchmen. The British Grand Prix was their first race and there is no doubt the Talbots were faster than any other machine, but the team was disbanded before the cars were properly developed.

R. Benoist in the 1927 $1\frac{1}{2}$ litre Formula 1 Delage



The two dark horses were the Thomas Specials, designed and built by J. G. Parry Thomas, a skilled engineer and fearless Brooklands driver. To the disappointment of most spectators the cars had to be withdrawn on the eve of the race with gearbox trouble. One other challenger was Halford's supercharged Halford Special with a six-cylinder engine of his own design in an Aston Martin chassis. For a private entry it was very quick.

A youthful G. E. T. Eyston also drove a side-valve Aston Martin to which he had fitted a supercharger and then there was Malcolm Campbell in the latest $1\frac{1}{2}$ litre supercharged eight-cylinder Grand Prix Bugatti.

One by one the Talbots dropped out during the opening stages of the race and Delage also had troubles. Their drivers suffered from roasting feet, for the hot exhaust pipes passed so close to the pedals, that driving shoes were very soon scorched. This meant that not only was a change of drivers necessary, but they had to keep stopping at the pits to cool their sizzling shoes in bowls of cold water.

After three-quarters of the race, the most likely British challenger, the Halford Special, retired. However, Malcolm Campbell pressed steadily on to challenge the leaders and when the race ended, he was in second place to the Delage driven by Senechal and Wagner. In fact, had the race been a few laps longer, Campbell, with his reliable Bugatti, might have been the winner. One consolation for Talbot was that Segrave made the fastest lap with a speed of 85.99 mph.

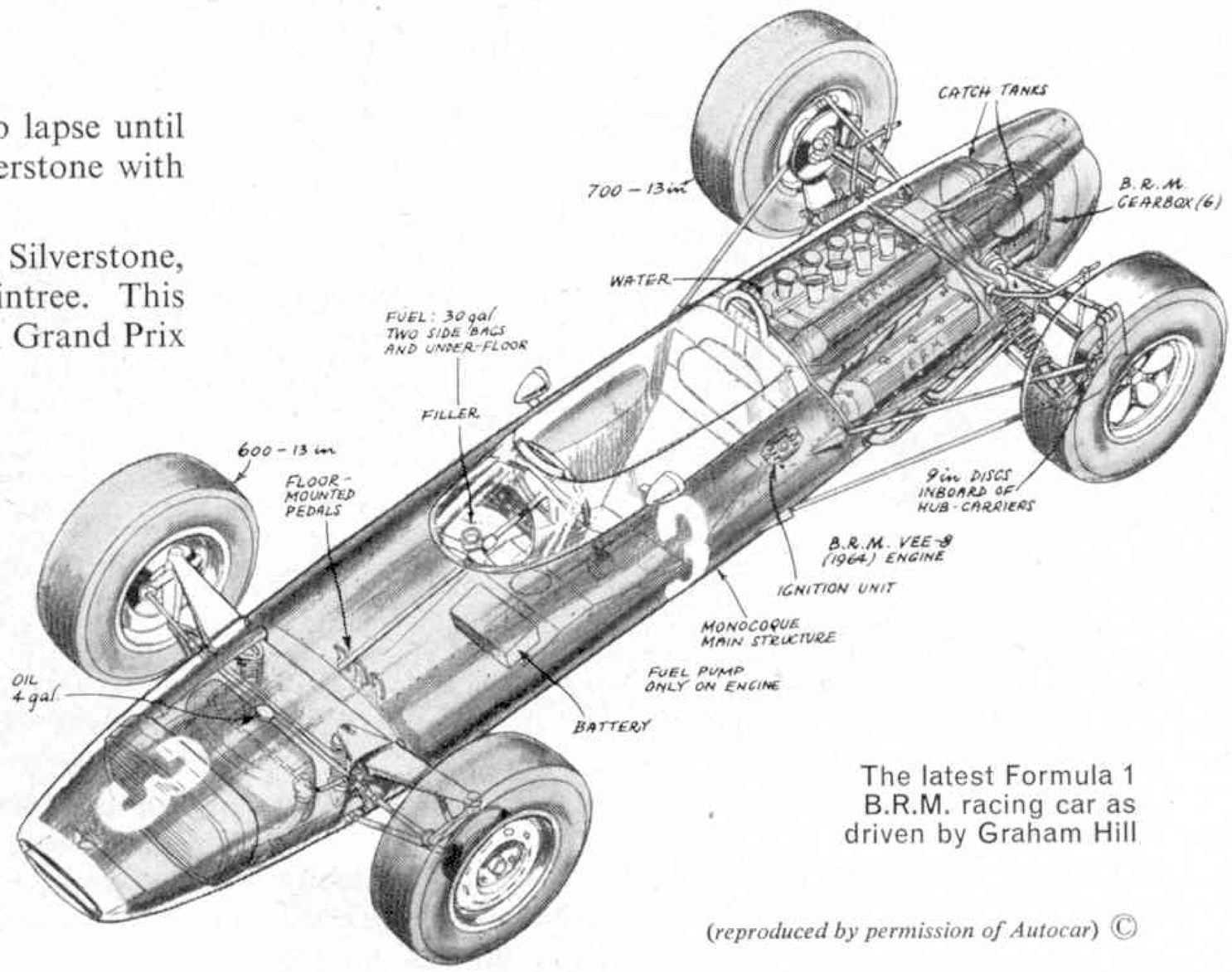
The following year, over the same course, only 11 cars faced the starter for the British Grand Prix. The new straight-eight front wheel drive Alvis was hastily withdrawn due to a defective oil pump and all British cars were out of the race before a quarter distance. It was virtually a walkover for the all-conquering Delage team.

The British Grand Prix was then allowed to lapse until 1948, when the present series began at Silverstone with a win for Maserati.

Since 1948 the race has usually been run at Silverstone, with an occasional visit further north to Aintree. This year, for the first time since 1927, the British Grand Prix came South and was fought over the 2.6 miles Brands Hatch circuit.

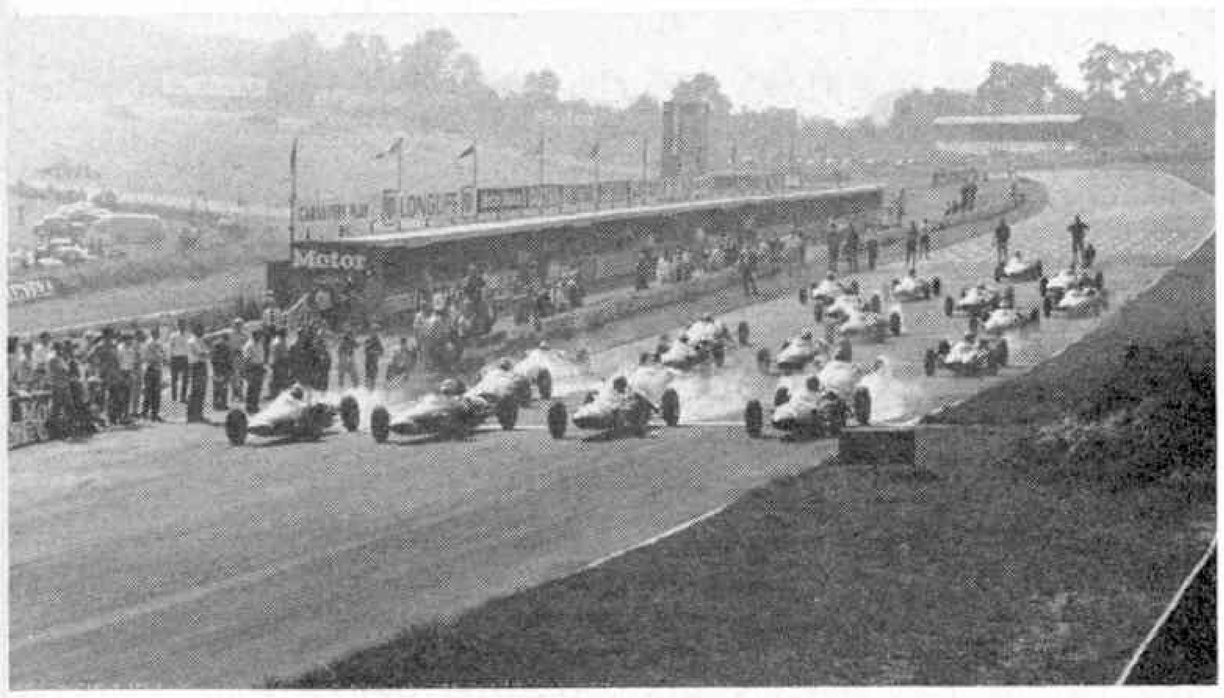
Now it is the turn of Britain to dominate Grand Prix racing, whilst the Continentals battle to produce a race-winning car. The entry for the British Grand Prix on July 11th consisted of Lotus, BRM and Cooper, each a former winner of the World Championship, while their only serious opposition from the Continent was Ferrari. However, we may soon see additional challengers from Japan in

GRAND PRIX



The latest Formula 1 B.R.M. racing car as driven by Graham Hill

(reproduced by permission of Autocar) ©



...to Brands Hatch

the form of the Honda V-12, but so far, the little men from the mysterious East have not yet found themselves a driver to match the skill of Jim Clark, Graham Hill or John Surtees. In fact, until they do, their chances of success will be extremely slim.

More than £100,000 has just been spent on the development of Brands Hatch circuit at Fawkham, Kent, and from the spectators' viewpoint, the new course rivals the best Continental circuits. There are many natural hillside vantage points, whilst new stands, seating more than 12,000 people give spectators a good overall view of the racing. In addition, there are ten Continental-style open air restaurants boasting tables with sunshades, as well as facilities for eating under cover. However, one of the most interesting additions to the Grand Prix circuit is a fine electronic scoring tower, 35 ft high, with a giant 8 ft diameter stop watch, that can be read from many parts of the course.

Competitors, too, have better facilities in a paddock with covered bays. Already several top drivers have been to look at the new Brands Hatch and try their latest cars there.

Brands Hatch has come a long way from the old motor cycle grass track I remember before the war. Today it is a fitting circuit for the Grand Prix of the Champion Motor Racing Nation of the World and already drivers have set their sights on the 100 mph lap on this 'new' Grand Prix circuit.

Jaguar 'S' Type

A luxury saloon with performance approaching Grand Prix standards is a simple description of the 'S' Type Jaguar. It is available with 3.4 or 3.8 litre engines and the 3.8 'S' with fully automatic transmission which I have been driving recently achieved a best speed of 121 mph. Despite its size and weight, there is typical Jaguar acceleration, 100 mph coming up within 27 secs and 80 mph in 15½ secs. Fuel consumption lies between 18 and 22 mpg according to how fast you drive.

All-independent suspension is aided by a limited slip differential, to minimise wheelspin. This new Jaguar handles and steers rather better than the Mark 10 and the 'S' is also more firmly damped to give nicer handling at speed. Driving-vision area is not very good for the nearside front wing and tail are both 'lost' from view in the driving seat. The 'S' Jaguar is exceptionally well equipped and a most comfortable car to drive fast.

The Sikorsky S-61N helicopter in service with BEA.

by **John R. W. Taylor**

NOW THAT the summer holiday season has started, many readers of the *Meccano Magazine* will be looking forward to their first flight on the new BEA air-bus service between Land's End and the Isles of Scilly. It is one of the world's most exciting short-distance journeys, because on May 2 this year the faithful old de Havilland Rapides which had operated the service since 1947 were replaced by a pair of Sikorsky S-61N helicopters.

The differences between the two types of aircraft are staggering. This is hardly surprising, as the Rapide was designed before the war and is a fabric-covered biplane built of wood and powered by two 204 hp Gipsy Queen piston-engines. With a full load of seven passengers it weighs 6,000 lb and cruises at 117 mph. By comparison, the S-61N embodies the very latest ideas on airline helicopter design. It is an all-metal aircraft, with a loaded weight of 22,000 lb and powered by two 1,250 hp General Electric CT58-110 shaft-turbine engines which enable it to carry 25 passengers at 140 mph. Its fuselage is shaped like that of a flying-boat, and floats are fitted in addition to the normal retractable wheels, so that it can land and take off from water in an emergency.

Inside the cabin, passengers find things very different from the rather cramped and primitive Rapide. The S-61N is furnished like a fixed-wing airliner, with cream walls, green carpet and turquoise-coloured seats and ceiling. No wings and engines obstruct the view through the huge windows, and on a fine day passengers have a superb panorama of the rugged coast of Cornwall, the lonely Wolf Rock lighthouse and the Scillies as they cruise comfortably over the Atlantic Ocean, with a stewardess in attendance to help make their trip comfortable and happy.

BEA have had to pay about £700,000 for their two S-61N's, which is probably 200 times as much as they got for the Rapides on the second-hand market. In addition, the helicopters are costly to run and carry a crew of two pilots and a stewardess, compared with just one pilot on the Rapides. Fares would have had to be increased considerably to enable the service to run at a profit. Instead of doing this, BEA have kept fares to a minimum and will make up losses on this service from profits made on their other routes, with some help from the Ministry of Aviation.

The normal one-way fare on the 30-mile route is £2 3s 0d, but this is increased to £2 13s 0d during the peak summer months, from June 1 to September 30, for flights made on Friday, Saturday, Sunday and Monday. Special one-day excursions are available on Fridays, Sundays and Mondays at a round-trip fare of £4 6s 0d, and 40-minute joy-ride flights, out and back on the same helicopter, cost only £2 16s 0d. This includes the bus fare from Penzance railway station to St. Just Airport, Lands End, but operations will soon be transferred to a new heliport in Penzance.

The popularity of the helicopter air-bus is shown by the fact that 400 flights, mostly on Saturdays, were fully booked before the service opened. But it is unlikely that you would be disappointed if you tried to get a seat on a

BY SIKORSKY TO THE SCILLIES

week-day, in view of the S-61N's large seating capacity compared with a Rapide. During August, for example, there will be 36 flights a week in each direction, offering a total of more than 1,600 seats a week. BEA expect to carry a total of at least 40,000 passengers between Land's End and the Scillies in 1964—an increase of over 30 per cent on last year's record number

It is almost 25 years since the first regular air service was opened on this route by Great Western and Southern Air Lines, a predecessor of BEA. The aircraft used was a de Havilland Dragon biplane, which operated the first scheduled passenger flight from St. Just airfield to a grass strip on the golf course at St. Mary's, Isles of Scilly, on September 13, 1939. The Dragons kept the service going through the war, wearing a coat of camouflage paint and escorted by Hurricane fighters of the Royal Air Force, and were superseded by the improved Rapides in 1947.

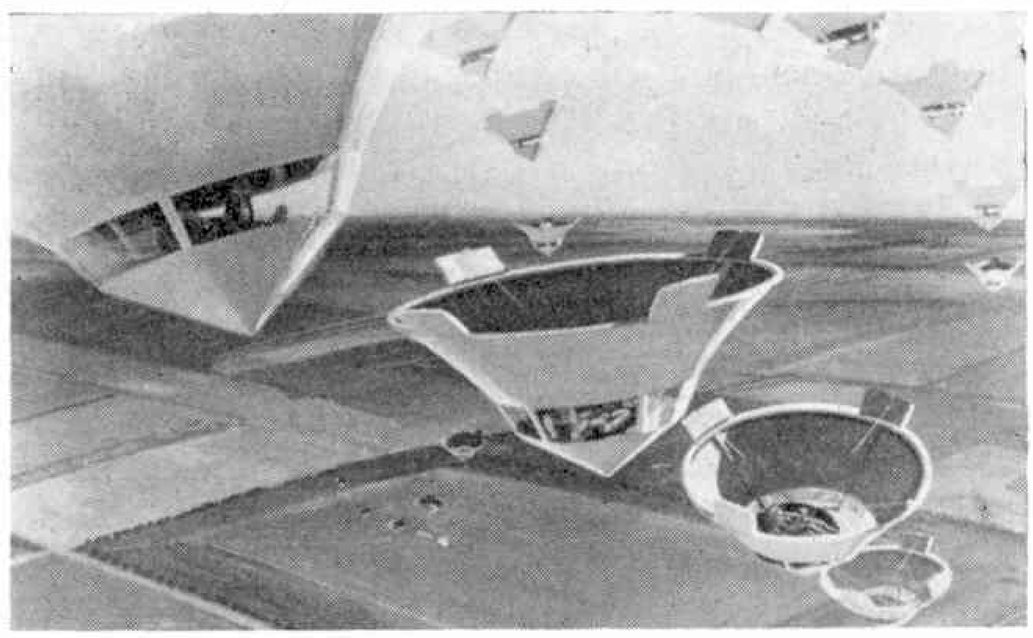
Since then, the tiny fleet of biplanes has often made 20 round trips a day between the mainland and the Scillies in the peak holiday season. And although flying time over the route was only 20 minutes, the three Rapides logged a total of 26,750 flying hours in some 77,500

The Sikorsky S-61N can carry 25 passengers at 140 mph and is powered by two General Electric CT58-110 shaft turbine engines.

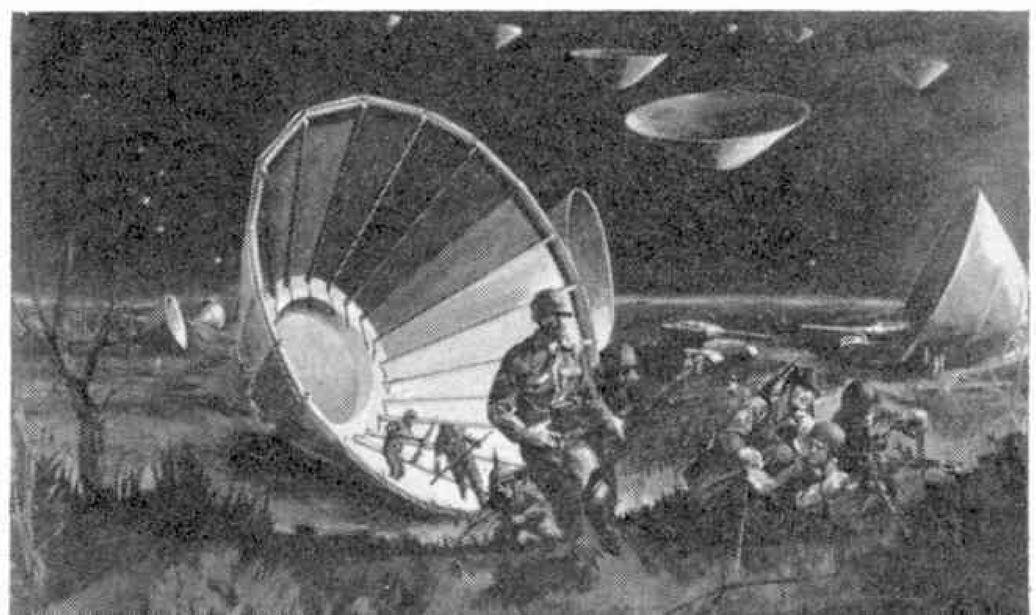
flights, carrying 384,000 passengers. Nor is this all, for many lives have been saved by ambulance flights made by the veteran biplanes in all weathers.

There was, inevitably, some sadness on May 1 when a Rapide left St. Mary's for the last BEA fixed-wing service to St. Just. After take-off it was joined by its two sisters for a final farewell fly-past over the islands. But few passengers will feel sad when they experience the greater comfort and speed of the S-61N's, and the experience gained by BEA with this new helicopter service should be invaluable to them in the future when more of our cities and holiday centres are linked by vertical take-off aircraft.

One of the old De Havilland Rapide's which the new BEA helicopter service has now replaced.



Paracones could be the new method of descending safely from the skies, replacing the parachute.



Parachute of the future?

Parachutes may one day be replaced by inflatable cone-shaped fabric structures resembling giant shuttlecocks. Years of research by the Douglas Aircraft Company have shown that the new devices, known as Paracones, should provide a quicker and safer means of descent for paratroops in combat areas and for crew members escaping from disabled aircraft.

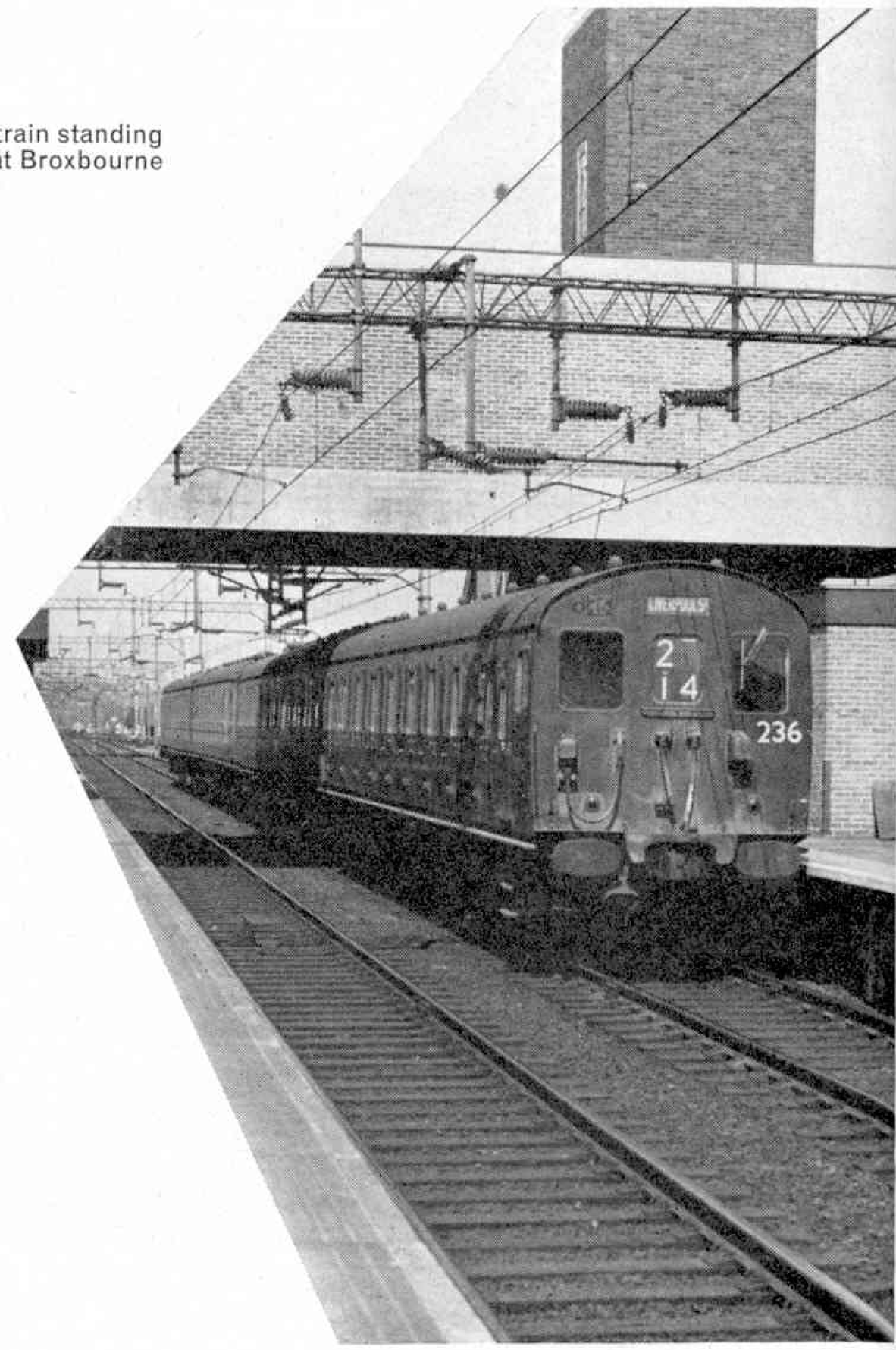
A small Paracone could be strapped to the jumper's back and opened by pulling a ripcord, just like a parachute. This would release a gas to inflate the cone, after which the jumper would complete his drop lying inside it. He could guide it either by shifting his body to one side or by manipulating deflector tabs attached to the rim of the Paracone.

As a Paracone would descend twice as fast as a parachute, a paratroop using one would be exposed to enemy fire for only half as long. Injuries caused by heavy landings would be reduced, as the impact is cushioned by the cone's soft nose. The hazards of coming down among trees or in Arctic or shark-infested waters would also be eliminated. And the Paracone would serve as a lifeboat on water, an igloo in polar regions, or as a shelter from the desert sun.

Money from the sky!

When a transport aircraft crashed in the Yemen in 1955, the late Imam Ahmad had the wreckage taken to his treasury where the pieces of aluminium were stamped into coins about the size of a sixpence, known as bakshah. This unique issue of coins is still in circulation.

by **Michael Rickett**



A Liverpool Street train standing in the new station at Broxbourne and Hoddesdon.

ALTHOUGH THE work currently being carried out on the electrification of the Liverpool, Lime Street—Euston main line has been given prominence in recent months, other electrification schemes have been completed by British Railways and are now in full operation.

Such a project was the Bishop's Stortford—London, Liverpool Street route which was electrified on the 25 kV and the 6.25 kV systems. This was probably the forerunner of the present electrification programme between Liverpool and Euston and other main line routes. The engineering changes on the route between Bishop's Stortford and Liverpool Street include the rebuilding of a number of stations, among them Harlow Town Station, first in the country to be built to meet the needs of a new community. More recently, this town has had

GOING ELECTRIC

built a new rail freight depot, which is intended to act as a focal point for freight for an area of up to 15 miles radius, the purpose being to speed movement and cut working costs. It occupies a six-acre site between the new main lines and the new coal yard at the London end of Harlow Mill Station. At the time of rebuilding, the track work at Harlow Town Station was altered to eliminate a long-standing railway traffic bottleneck. A new signal box was built, and a new goods and coal yard constructed.

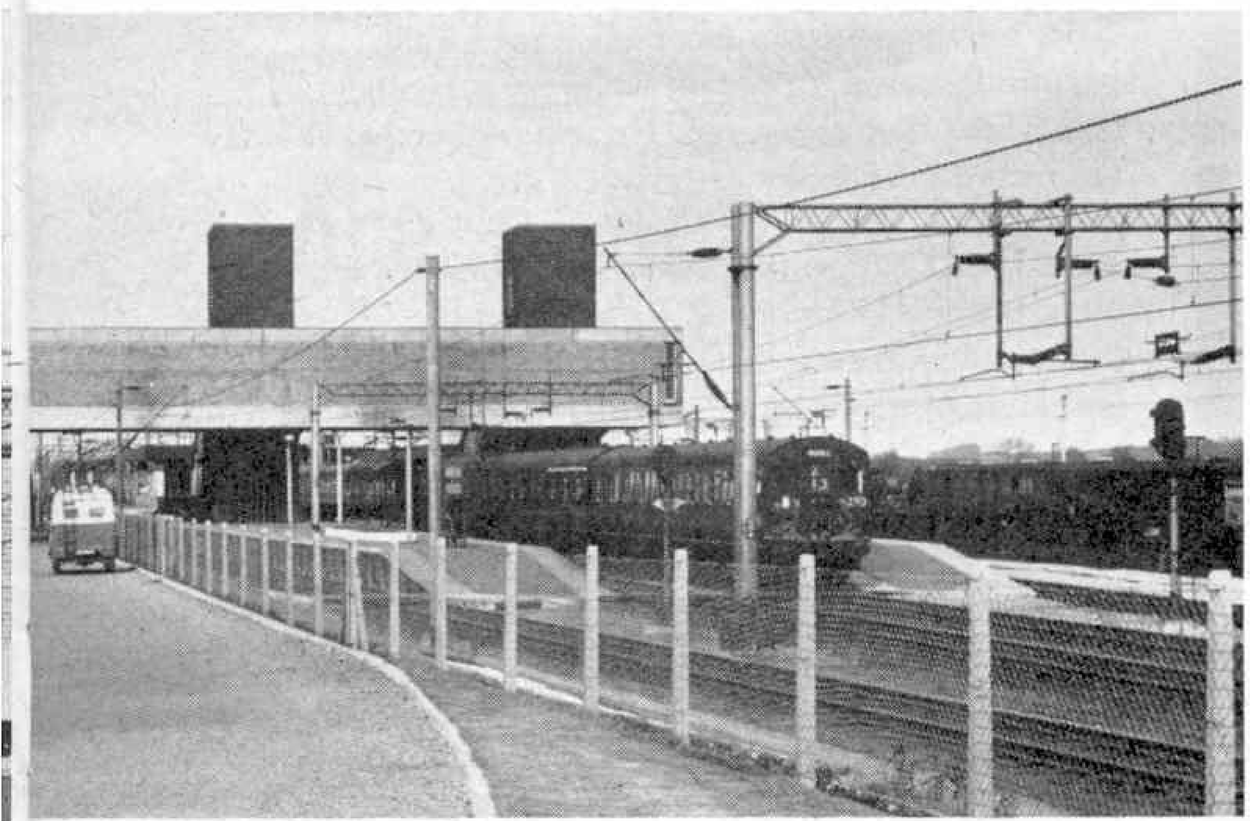
Another development was the re-opening of the five-mile long Southbury line which had been out of use since 1908. British Railways decided to re-open the line and electrify it in keeping with the remainder of the route. This connects the Liverpool Street, Enfield Town section of the line (including the Chingford branch) with the Bishop's Stortford—Cheshunt section, and forms a more convenient link than previously existed. This five-mile section of track was taken up and the ballast removed. It was then completely relaid with standard 109 lb flat bottom rail and the junction with the Lea Valley line at Cheshunt was remodelled to allow for faster traffic.

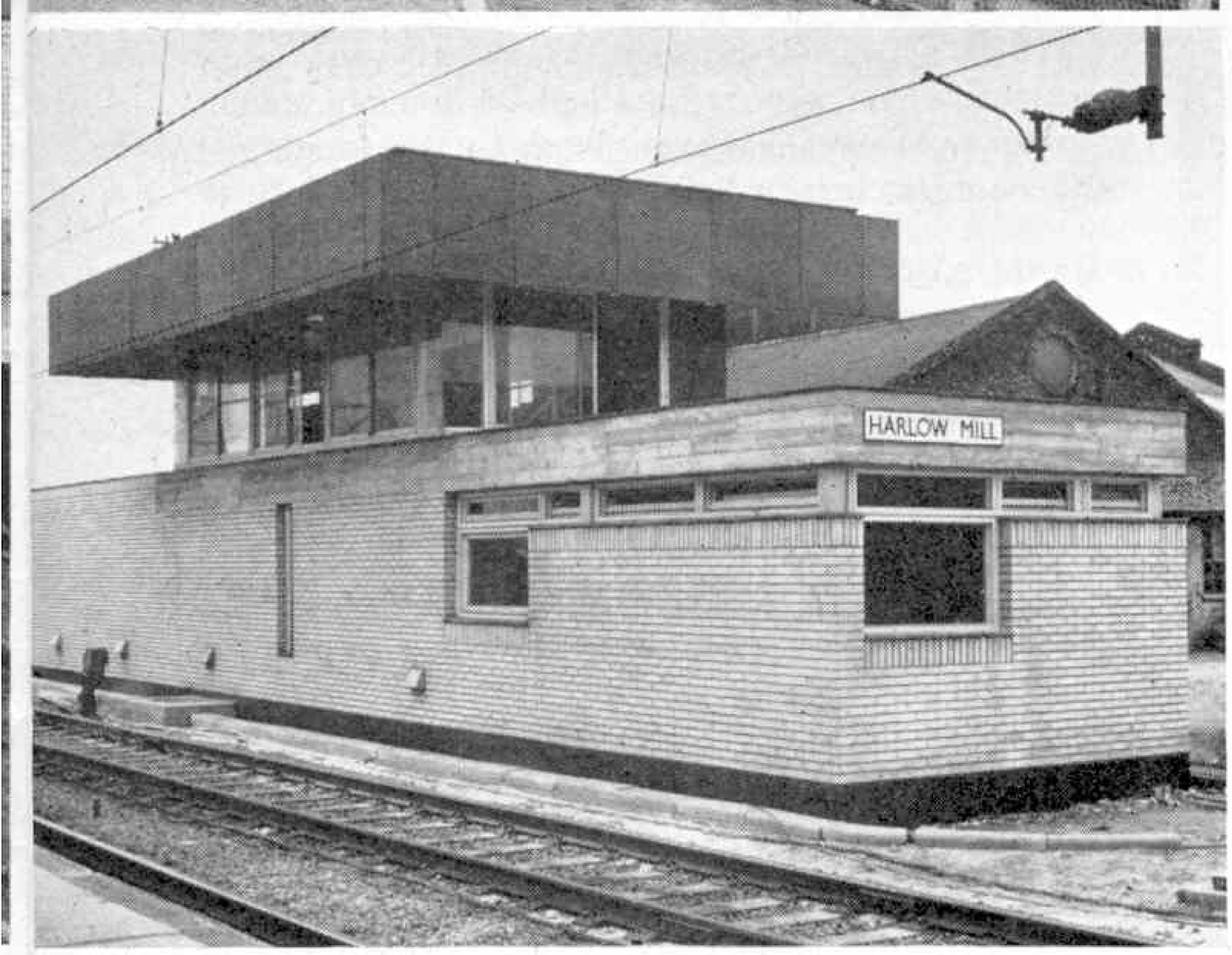
Other stations to be remodelled includes Broxbourne and Hoddesdon, between Cheshunt and Roydon. Platforms were lengthened at 27 of the stations to accommodate nine-car trains on the Enfield Town and Chingford lines, and sufficient room for eight-car trains was provided on the Hertford (East) and Bishop's Stortford lines.

The rebuilt station at Harlow Town can now take trains of up to 12 cars, and of the 80 bridges on the North East London lines, 30 were reconstructed, and 14 raised. Seven new concrete footbridges, and three new station bridges, were provided. The track was lowered at 12 bridges and four tunnels. The concrete footbridges were of a new type developed in the Eastern Region, and are now being used generally in connection with electrification schemes.

At Bishop's Stortford, two road bridges were reconstructed not only to provide additional head room, but to permit higher speeds by lengthening the span of the bridge. The new signalling buildings on the line included two feeder stations, nine track sectioning cabins and change-over houses, 14 relay rooms and four new sectioning boxes.

At Hackney Downs a signal box of original design was erected on the platform, high above the road. The motive power depots at Wood Street and Hertford (East) which were formerly required for steam services, were





demolished, since all services are now operated by electric trains. The power supplies for the system are obtained from the national grid, and fed into five railway feeder stations at Bethnal Green, Silver Street, Wood Street, Rye House, and Bishop's Stortford. These supply the tracks on either side of them. Should occasion demand, neutral sections and other associated switches have been so positioned that when any one feeder station is out of action, through-feeding can be extended to cover the tracks towards the next operative feeder station.

The old fashioned semaphore signalling system was, before the electrification, used throughout, but this was replaced by colour light signalling and continuous track circuiting. A new signal box was also built at the country end of Broxbourne Station. This installation is of a modern type with push buttons instead of the more traditional levers. Harlow Mill and Hackney Downs also have new signal boxes, and Harlow Town has remote interlocking arrangements, controlled by means of 'Westronic' equipment.

British Railways workshops at York and Doncaster built, for this electrified route, 52 three-car, and 19 four-car multiple unit train sets. These units are now in service, and no doubt many readers will have travelled in them. The three-car units consist of a driving trailer coach with a driver's cab, a motor coach (with guard's van) which carries the pantograph, and a battery-fitted trailer coach, with a driver's cab. The four-car units are similarly equipped, but with the addition of a trailer composite coach between the driving trailer coach and motor coach.

There are carriage washing machines at Enfield Town, Chingford, and Hertford (East) which consist of rotating flail shafts arranged to give a wiping action on the sides of the coaches. The machines are, in fact, similar to those mentioned in Meccano Magazine last month in that they are automatically started when the approaching train breaks the light beam between two photo-electric cells. Two hundred gallons of water a minute are used in the operation, and the trains pass through the machines at three miles an hour.

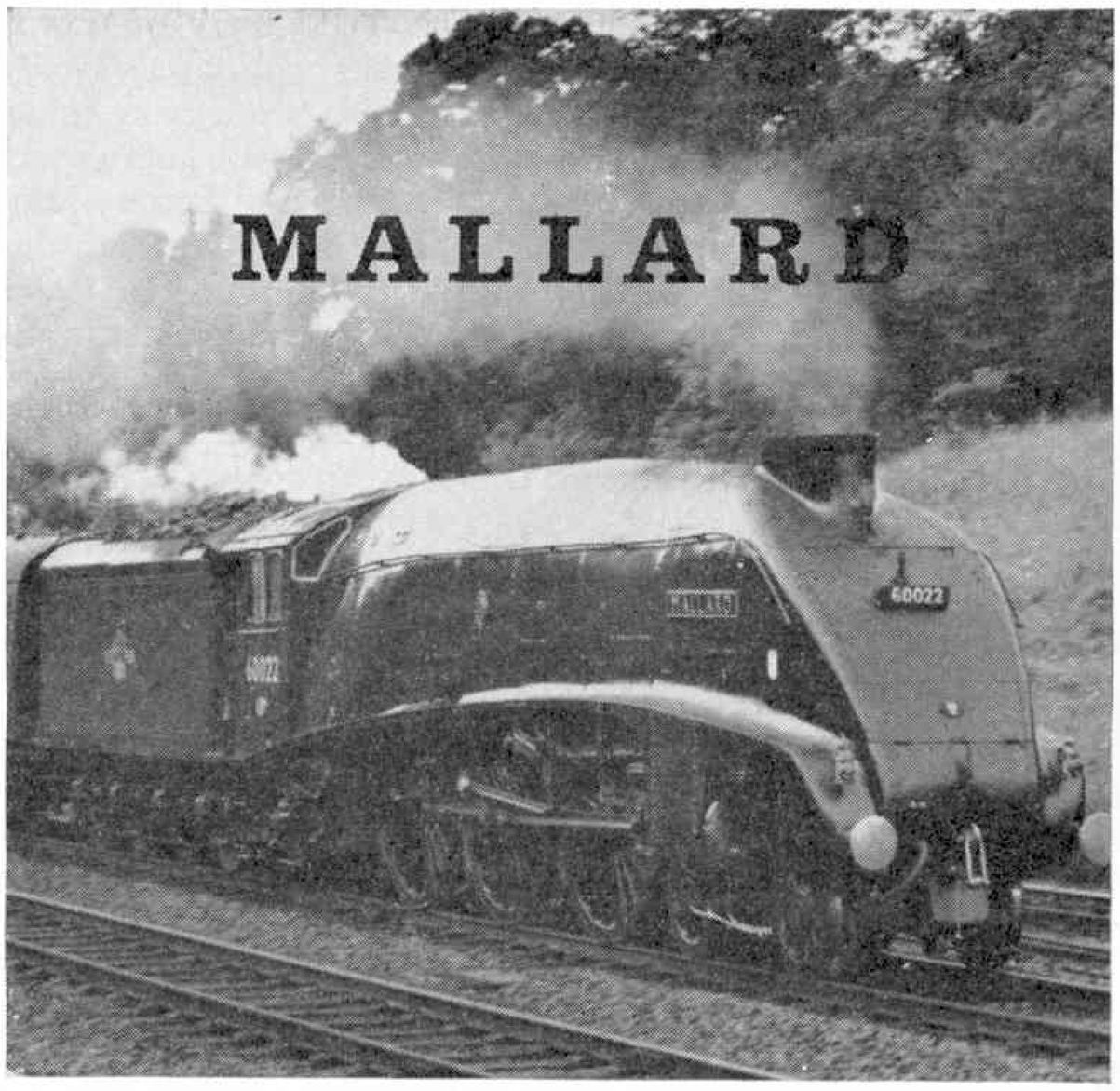
The route between Liverpool Street and Bishop's Stortford, being part of the main line route to Cambridge, via the Southbury line, together with the suburban branches to Chingford, Enfield Town and Hertford (East), is, in the main, a two-track line, apart from the Bethnal Green to Hackney Downs section which has four tracks. Approximately 45 route miles (111 single track miles) are covered. The change-over between the 25 kV and the 6.25 kV systems is effected just south of Cheshunt Station.

This electrification scheme is a working example of the smooth efficiency, comfort, and speed that British Railways are now providing in an increasing number of areas. No doubt the Liverpool—Euston main line project will offer passengers similar advantages when completed.

Top: The modern touch—the approach to the new station at Broxbourne.

Middle: The modern electronically controlled signal box at Harlow Mill. This is remotely interlocked, and controlled by 'Westronic' equipment.

Bottom: Another example of the modernisation plan on the Liverpool Street-Bishop's Stortford line is the spacious booking hall at Harlow Town Station. The picture shows the ticket barrier and train indicator. All pictures appear by courtesy of British Railways.



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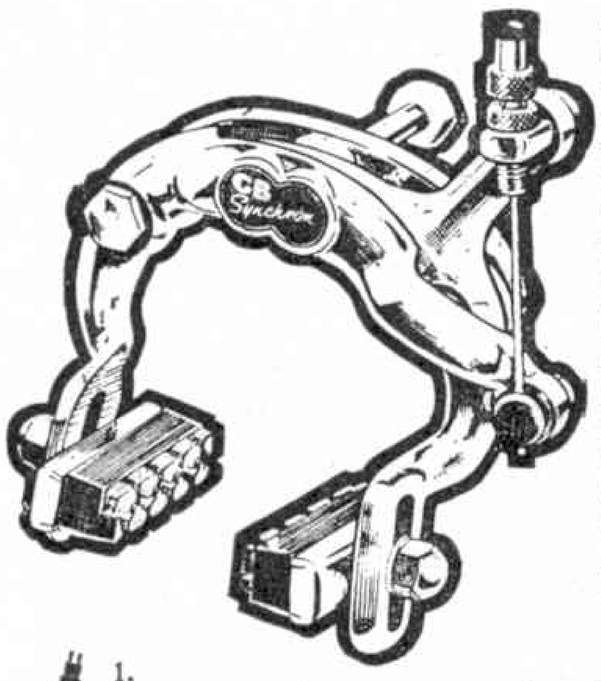

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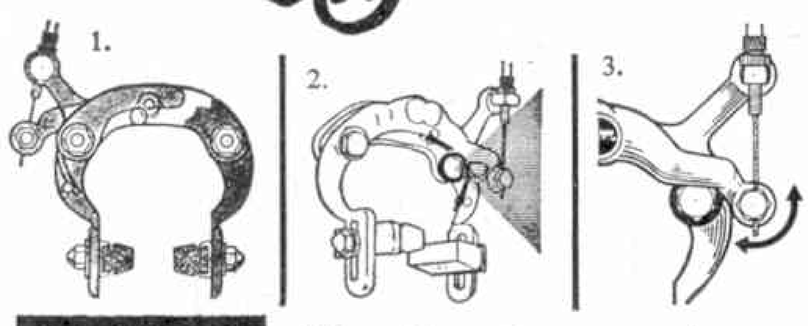

The three illustrations show the various points of operation on the Synchron stirrup.

1. The nylon bush attached to the back of the L/H stirrup providing the leverage point for the completely synchronised action.

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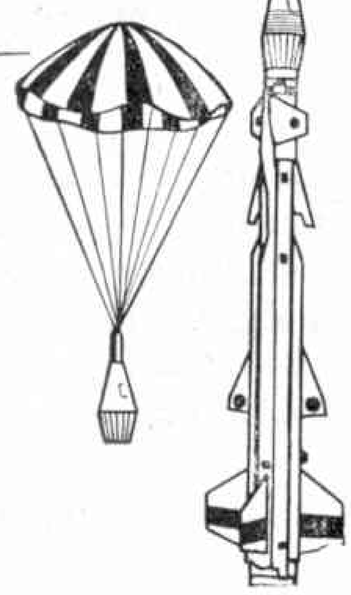

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by **John Crossman**

More about Groundbait

How do you entice fish into your part of the river? How do you get them to expect the bait you offer and bite eagerly on your hook? John Crossman of the Angling Times writes . . .

WHEN FISHING deep, wide waters such as, for instance, the Shropshire meres, it is a waste of time for the angler to cast in and then sit back to wait for the fish to find the bait. Groundbait has to be used to attract fish to the angler's swim, keep them there, and educate them so that they accept the hookbait as food.

On hard-fished waters in the summer so much groundbait is thrown in by anglers that it becomes a major food item for fish and they become obsessed with it. That is why chrysalis is such a deadly bait for roach on the River Trent, and it is also the reason for the success of hempseed on the Lower Thames.

Groundbait usually consists of powdered bread, rusk, or cereal. The angler mixes it with water until it is of the consistency he requires. For waters with little or no flow the groundbait is dampened until it will just cling together when pressed firmly in the hand; the idea is that when it hits the water it will immediately break up to form a slow sinking cloud. In deep water or in rivers of strong flow the groundbait should be heavier so that it sinks quickly to the bottom.

For still-water fishing make certain that your groundbait does not clog as a result of careless mixing. Lumpy groundbait, apart from causing a noise and a splash when it hits the water, allows fish to overfeed in a short time. When canal fishing for roach this is something to avoid and it pays to sieve groundbait after mixing. Otherwise fish may choose to feed on the groundbait and ignore the hook bait.

An effective groundbait for most waters is bread which has been dried and then ground into a fine powder. Oven-dried bread can be crushed easily with a rolling pin, but stale bread is best put through a mincing machine or coffee grinder. The virtue of this groundbait is that any lumps in it will always rub out.

In deep, moderately coloured water where little light is able to penetrate, a pure white groundbait is often successful, presumably because it is easily seen. No crust should, therefore, be used when preparing white groundbait.

Brown groundbait (made from brown bread with the crust left on) is good for clearer water, and yellow seems an attractive colour for roach. A yellow tint can be obtained by adding a few spoonfuls of custard powder to the groundbait, or by the inclusion of 1 lb-2 lb of maize meal which is sold cheaply by corn merchants.

In fast currents where a cloud groundbait would be quickly carried away, groundbait can be stiffened by adding mashed potatoes, stale loaves which have been soaked in water and then pulped up, or a few handfuls of clay from the river bank. Many forms of cloud groundbait are sold in tackle shops, but when small bags of it are bought the price is seldom less than 1s. a lb. If you do a lot of fishing it is cheaper to buy in bulk. Several firms who advertise in the angling press sell groundbait at about 17s. for 28 lb, including the cost of carriage.

Bikes, Bed and Breakfast

by **Bill Oakley**

THE CYCLIST camper is free to stop wherever and whenever he likes to make a meal or put up for the night. It doesn't matter if you are 20 miles from the nearest dwelling—as you well may be in some of the wilder and more adventurous parts of the country—you have your bike, a tent, some food and a stream close by.

Keep the weight and bulk of your equipment as small as possible. It should all go into a pair of pannier bags over the rear wheel, a saddlebag, and a pair of small steering-head panniers (they drop over the top tube and clip round the head) or a handlebar bag if really necessary.

A one-pole tent is ideal for the cyclist, Tent, pole, pegs and groundsheet need weigh not more than 7½ lb.

With the new Anker pegs, or skewers, there is no need to worry about slacking off the guyline at night, or in rain. A paraffin pressure stove is probably best for cooking. One can be clipped to one of the bike's frame tubes. Make sure the paraffin and methylated spirit are kept in leakproof containers and kept well away from other kit and food.

Happy camping depends very largely on the choice of a good place to pitch a tent. You need to sleep undisturbed by animals, insects or water invading after a downpour. You want a quiet place away from the road. A snug corner of a field near a farmhouse is ideal and most farmers will readily give permission. They will often provide milk and eggs as well as water.

Don't camp under trees; near insect-haunted undergrowth like bracken and heather, or stagnant pools; nor in fields where sheep and cattle are grazing. High ground is better than low so long as it is level and not too exposed. Note which way the wind is blowing and try to find a spot on the sheltered side of a ridge, or wood.

Of course you will leave no litter nor light fires where there is any risk of damage. Bury all refuse, shut all gates and offer a farewell word of thanks to the farmer, or his wife. Ask if there is anything to pay.

It would probably save you making mistakes and wasting money if you could make your first cycle-camping venture with an experienced companion. Maybe there is a local section of the Camping Club, or a Camping Section of the Cyclists' Touring Club in your area whose members would be pleased to advise. Sometimes they have Invitation Camps where novices are welcome for a trial.

If you don't intend doing much cooking, merely boiling water to make tea or coffee and, say, frying breakfast, then a simple solidified-spirit stove may be all you want.

There are lightweight outfits of pots and pans, mugs and plates, knife-fork-spoon combinations, water and food containers, all made specially for cycle-campers in alloy and plastics. They can be inspected at any good class ironmongers or sports shop. The catalogues of firms such as Benjamin Edgington, 144 Shaftesbury Avenue, London W.C.2, or Headquarter and General Supplies Ltd, 196 Coldharbour Lane, Loughborough Junction, London, S.E.5 also help in deciding what to buy.

Having assembled your equipment and found how it works by practising on the lawn or some place near home, then work out the best way to pack it on the cycle.

The saddlebag will probably take the usual cycling weekend luggage—tools, repair outfit, spare parts, cape, clothing, etc.—leaving the rear panniers free for tent, groundsheet, sleeping bag and utensils.

A light, but strong, carrier fitted over the rear wheel will be necessary to support the pannier-bags. Food, maps and oddments could go in the steering-head panniers, or handlebar bag.

by **David Kaye**

In his last article, David Kaye wrote about West Bridgford Urban District Council's bus service which operates in Nottingham. Now he takes a look at Nottingham city's own transport department.

I HAVE always been amazed by the variety of bus companies operating from Nottingham, but certainly not the least interesting is the city's own transport department.

In November, 1962, the axe fell on the first of the trolleybus routes (45 Trent Bridge—Wollaton Park), and by 1966 the last trolleys should have been withdrawn from Nottingham. The first abandonment allowed the department to withdraw most of their wartime Karrier W trolleys, and on my visit to the Parliament Street Depot I only saw four of this class—460/1 with their utility Roe bodies, and 469/71 with similar angular Park Royal bodywork. These are used on the 47 route at peak hours and during most of the day on learner duties. The remaining trolleybus routes are grouped into 'roads': (i) 36, 37 and 41; (ii) 40 and 47; (iii) 42, 43, 44 and 46; (iv) 38 and 39. Many of these are short workings; for instance the 38 is a shortened version of the 39, which runs only in rush hours.

At the old 39/45 terminus at Wollaton Park, the interlaced looping, a most unusual feature, is, I understand, still in position. Until November, 1962, the Police forbade the use of six wheel trolleys in George Street (routes 40/7) because of the steep turn, but after the disappearance of trolleys on the 45s this rule was strangely relaxed. The city has turned to the Daimler 'Fleetline' for new vehicles recently, and at present, two batches are in service, mainly on the Clifton Estate routes. Nos. 46-63 (46-63 NAU) have Park Royal bodies, while Nos. 67-108 (67-108 RTO) have Northern Counties bodywork. However, the latest orders are for 44 Leyland "Atlanteans' and 35 AEC 'Renowns'. Recently the livery of the city buses has been altered from green with cream bands to green with cream roofs and 'tween decks panels.

There are three bus stations in Nottingham, and these are served by a great variety of firms. I suppose most bus spotters associate Nottingham with Robin Hood—not the notorious outlaw, but an operator now incorporated in Bartons, a company worthy of a whole article on its own, with all its surprise items fleet.

There are Gash's of Newark, running three routes from Newark via Orston, the main road, and Flintham to Nottingham, although passengers have to change buses at Newton Lane End (East Bridgford) on the Flintham route. This operator has an interesting fleet of Daimler double-deckers. Until ten years ago the nationalised Notts and Derby used to run a joint service of trolleys with Nottingham City, but now their smart blue diesel buses run into the bus station instead. Notts and Derby are part of Midland General and share the same livery, the same routes and the same numbering series. Whereas the Midland General buses seemed to have platform doors on their 'Lodekkas', the Notts and Derby versions were open to the elements. I enquired from Midland General about their route numbering system, whereby services are labelled A1-A9, B1-B9, C1-C9, etc. I was informed that this dates back to the time when there were so many firms in the area that this distinctive system had to be adopted.

I could go on and deal with Skills, Trent, Lincolnshire Road Car Co., Mansfield & District, Midland Red, etc., but I feel that the remainder of this article should be devoted to the South Notts Bus Co. of Gotham. Ever heard of a public house called the 'Cuckoo Bush' or 'The Better 'Ole'? Ever heard of the Wise Men or Gotham with their cheeses? There is something about the village, which 'gets' one. So it is not surprising to discover that the South Notts Bus Company never seem to part with any old friend. A graveyard of vehicles dating from their No. 1 (RR3116), a 1926 vintage Guy BA single-decker, up through the Leyland 'Lions' of the late twenties and the wartime Bedford OWBs to ex-Wigan 'Titans', meets your eyes. Yet they look in towards a very modern scene, for South Notts have a fine up-to-date fleet to run their main Nottingham-Gotham-Loughborough route, with its offshoots like West Leake-Nottingham, Gotham-Green Street-Nottingham, Gotham-Kegworth and Gotham-West Leake-Loughborough, not to mention their joint operation of Nottingham City route 68 out to the Clifton Estate. On a Saturday afternoon eight buses are on scheduled services, and the day I visited Gotham each bus had a double-deck relief following it. Low bridge buses are needed because of the 13 ft 9 in bridge over Wilford Lane.

Finally, I should like to thank W. Gash & Sons, the South Notts Bus Co., the Midland General Co. and Mr. Barry Watson for all their help in the preparation of this month's notes.

South Notts fleet list

Bedford OB/Duple C29F
38, KNN 314
41, LNN 319
65, KRR 297
68, LRR 655
Bedford SB8/Duple C41F
75, WBM 300
Bedford SB5/Duple C41F
79, 179 MVO
Bedford VAS1/Duple C29F
81, 81 SVO
Leyland PSU1/Duple C45F
42, MAL 310
Leyland PSU1/Duple C41F
63, LOE 900
64, LOE 300
67, XAL 639
Leyland PSU1/Leyland B44F
45, MRR 974
Leyland TD5/Alexander L53R
72, RN 8639
Leyland PD2/Leyland L53R
48, MRR 338
49, MRR 339
50, NAL 159
52, NRR 852
53, ORR 810
Leyland PD2/Weymann L55R
55, RRR 912
56, RRR 913
Leyland PD2/N. Counties L55R
71, MVD 627
Leyland PD2/Brush L53R
73, CCK 651
74, CCK 648
77, CCK 663
78, CCK 65
Leyland PD3/Weymann L67R
69, 669 BNN
70, 670 BNN
Leyland PD3/N. Counties L65F
76, 76 LNN
80, 80 NVO
Albion LR3/N. Counties H71F
82, 82 SVO

FIRESIDE FUN

You told me to bring my BEST FRIEND!

Some teachers are easily satisfied. One asked the slowest boy in the class what was used to conduct electricity.
'Why—er . . . ' said the boy.
'Correct,' said the teacher. 'What is the unit of electric power?'.
'The what, sir?'
'Right again. What is the unit of resistance?'
'Oh—um.'
'Well done. Go to the top of the class.'

* * *

Another teacher, or maybe it was the same one, said to his class that a man who could not make himself understood was little better than an idiot. 'Do you understand me?'
'No, sir,' they called out.

* * *

"This is our very latest model, madam . . . . in case of power cut!"

Heard any good jokes lately? If you have and you think that readers of Meccano Magazine might enjoy them, write them on a postcard and send them to:—Fireside Fun, Meccano Magazine, Thomas Skinner & Co., St. Alphage House, Fore Str., London, EC2.

What is the difference between a flea and an elephant? An elephant can have fleas, but a flea can't have elephants.

* * *

A doctor told his patient to take a deep breath and say ninety-nine three times.
'Two hundred and ninety-seven,' said the patient.

* * *

'Why are you staring at me like that?' the old gentleman asked the boy. 'Because my father said you were a self-made man and I'm wondering why you made yourself like that.'

* * *

A rather dull young man won some money and wondered how to spend it. 'You need a means of transportation,' said his friends.
He went to a motorcycle shop and told the manager what he wanted, but first he wanted the gear to go with it, so he bought a crash helmet, leather jacket, leather leggings and high boots. He finished off his ensemble with enormous leather gauntlets.
Then they set about choosing his conveyance, but he was rather timid, and he was afraid that all the motor bikes would be too dangerous. He was scared of the scooters, too, and even shied off when he was offered a push-bike. Disgustedly, the manager sold him a hoop for half-a-crown and a stick to beat it with for threepence.
Thrilled with his purchase, the young man beat his hoop out of the shop, along the main road and for miles into the country. It was thirsty work so eventually he stopped at a cafe for a cup of tea. He parked his hoop against the wall with his stick beside it.
When he went out again, ten minutes later, both had gone. He rushed back into the cafe.
'Someone has stolen my means of transportation,' he shouted. The cafe proprietor was shocked. 'How terrible!' He looked at the young man's clothes. 'A motor-bike, I suppose?'
'No,' said the young man. 'It was my hoop and beater.'
'Oh, I'll give you one of our special teas,' said the cafe owner. 'That will more than compensate for your loss.'
'That's no good to me,' yelled the young man. 'How am I going to get home?'

BEATTIES OF LONDON

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PALmers green 4258 Early closing Thurs.

3-RAIL HORNBY DUBLO TRACK LIST—NEW—S'HAND

		List	New	S/H
3701	Straight Rail	3/7	2/–	1/3
	dozen		18/–	12/–
3702	Half Straight	2/7	1/3	9d.
3703	Quarter Straight	2/3	1/–	9d.
3704	Term: Half Straight	4/11	2/6	1/6
3705	Roadway Half Straight	3/4	1/6	9d.
3706	Short Straight	2/2		1/–
3710	Curve 15″ Radius	3/7	1/6	9d.
	dozen		15/–	6/–
	dozen old type			3/–
3711	Half Curve 15″ Radius	2/7	1/3	9d.
3712	Quarter: Curve 15″ Rad.	2/3	1/6	1/–
3713	Term: Curve 15″ Radius	6/–	3/–	1/6
3719	Curve 17¼″ Radius	3/9	2/–	1/3
3720	Term: Curve 17¼″ Rad.	6/–	3/–	1/6
3728	Hand Point, R.H.	13/–	6/6	5/–
3729	Hand Point, L.H.	13/–	6/6	5/–
3731	Remote Point, R.H.	24/6		12/6
3732	Remote Point, L.H.	24/6	15/–	12/6
3734	Diamond Crossing, R.	9/11	5/–	3/6
3735	Diamond Crossing, L.	9/11	5/–	3/6
3738	Isol: Rail	3/6	2/6	1/6
3745	Hand Uncoupler	6/6	3/–	1/6
3746	Remote Uncoupler	16/–	8/6	6/6
3900	Railer	2/4	1/–	9d.
3470	Turntable	56/9	27/6	17/6
3400	T.P.O. Set	40/6	20/–	17/6
3450	Buffer Stop	2/8	2/–	1/6
3460	Level Crossing	7/6	5/–	3/6

POSTAGE 2/6 extra

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We bought the remainder of the 3-rail stock fresh from the Meccano factory. There will be no more new 3-rail when this stock is exhausted. At the moment we have plenty of track but the Locomotives are selling fast.

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3233	CO-BO	**42/6**
3235	DORCHESTER	**57/6**

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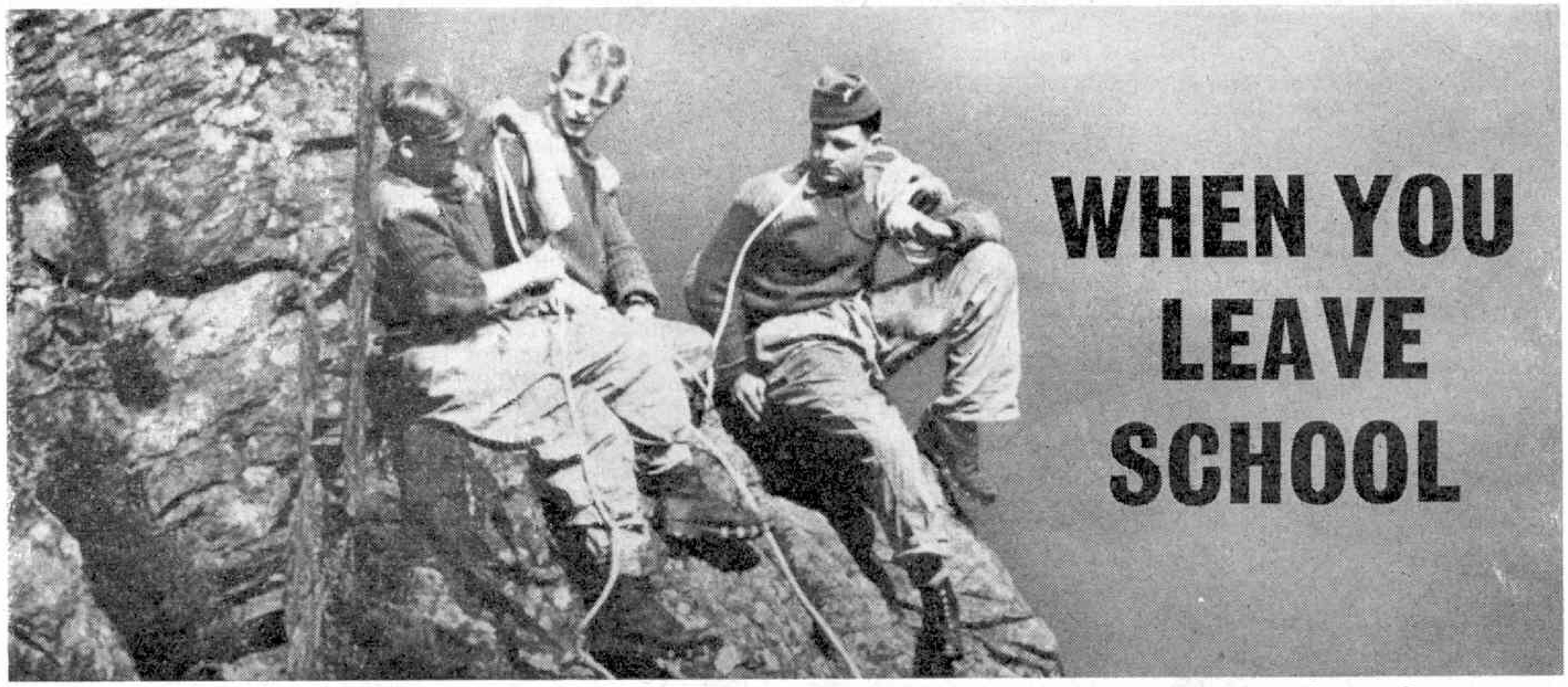

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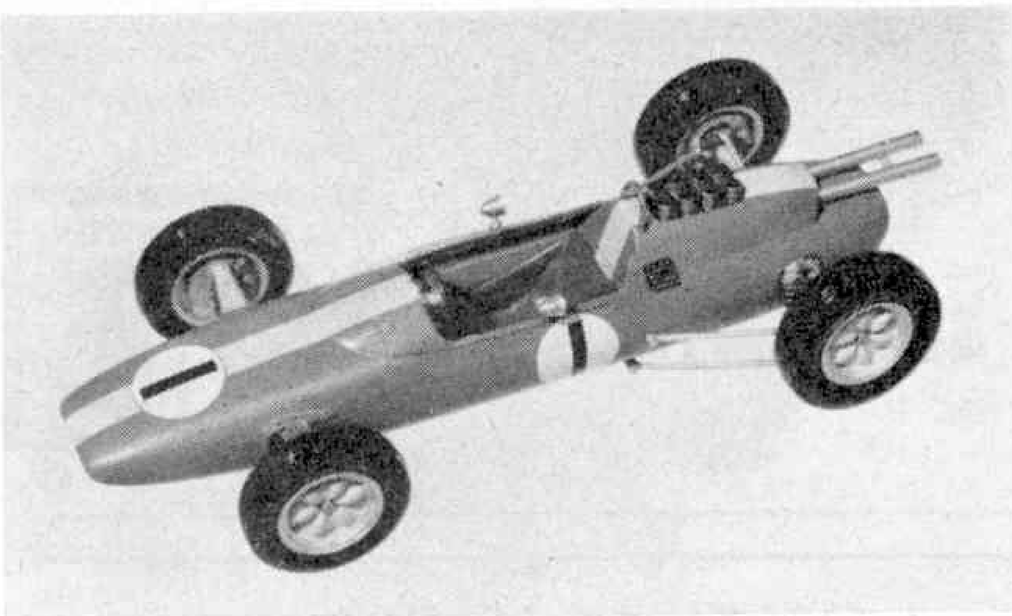
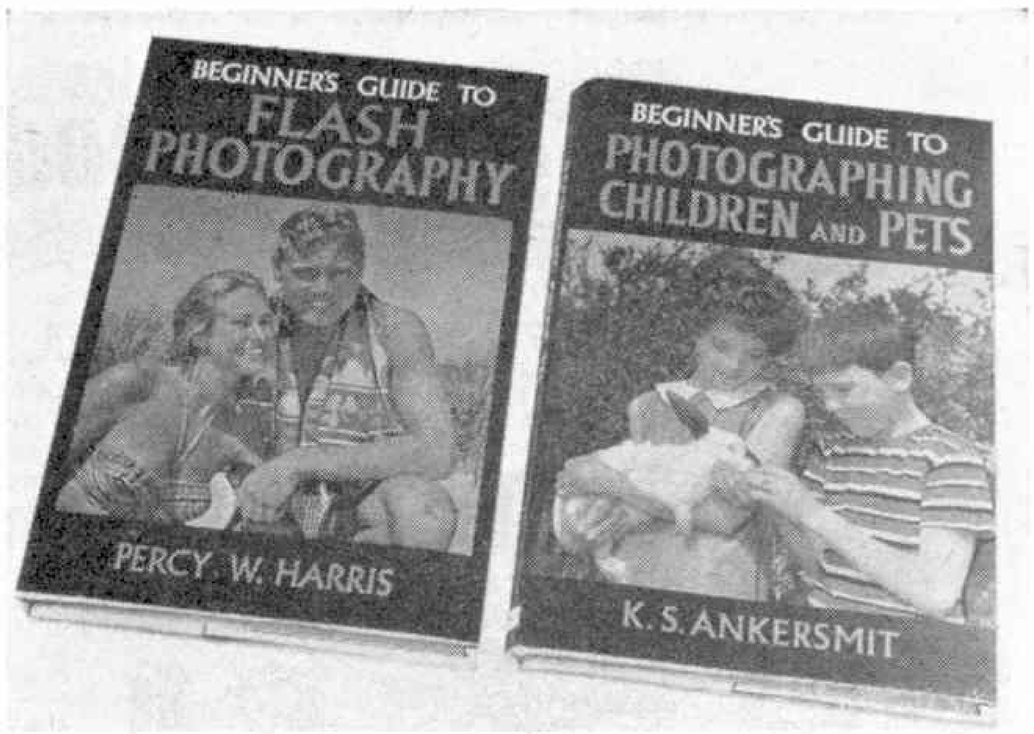
kits and models on the market

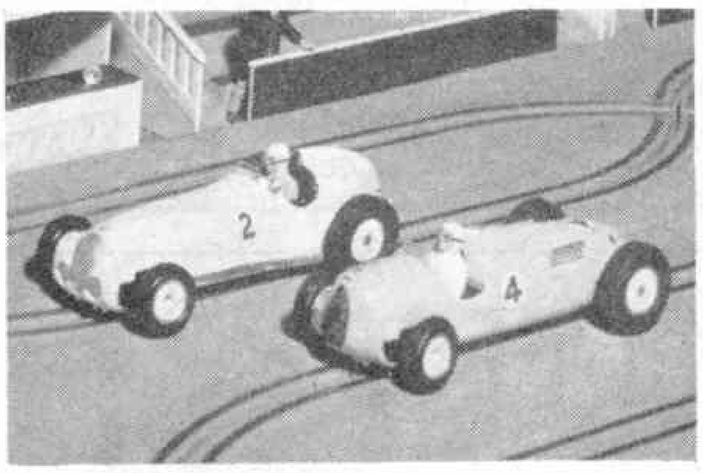


All-metal kit of the Lotus 25 racing car! This model is the second in the series of the new all-metal Auto-Kits available from Auto-Models Ltd., 70 Finsbury Pavement, London, E.C.2. The models are really for the enthusiast and are amazingly realistic. For example, the Lotus 25 kit has detailed suspension, correct body lines and transfers to enable the builder to give his model the Team Lotus finish. The kit costs **49s 6d**, plus **2s 0d** postage. The model can also be supplied ready assembled for **£6 6s 0d.**

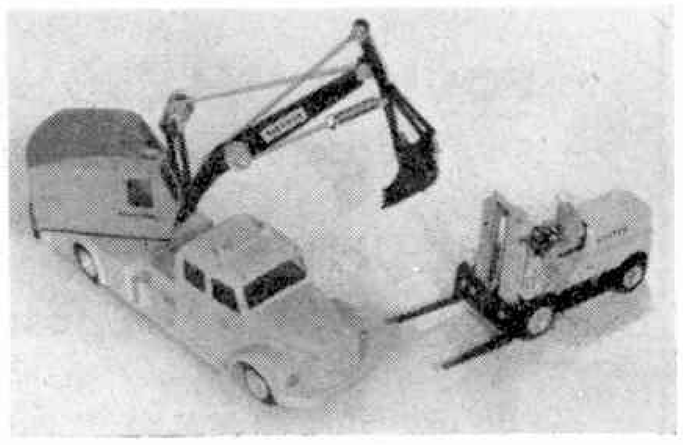


If you are thinking of taking up photography as a hobby, then there are two new books on the market which may be of great assistance. Published by George Newnes Limited, their titles are self-explanatory—*Beginner's Guide to Flash Photography* and *Beginner's Guide to Photographing Children and Pets.* Both of these interesting books are priced at **10s 6d** each and should be available from your local photographic shop or direct from George Newnes Ltd., Tower House, Southampton Street, London, W.C.2.

Seventy-four pieces go to make up the brand-new Vickers VC10 aero-model kit from Airfix. The completed model is to 1: 144 constant scale and measures 12 in. long with a wing span of similar dimensions. It is moulded in grey polystyrene and is complete from its miniature transparent windows to the last detail of its undercarriage gear. The kit also includes a miniature flight of steps for passenger access. Transfers and full painting instruction are given to finish the model in BOAC colours. Price of the complete kit is **6s 0d.**



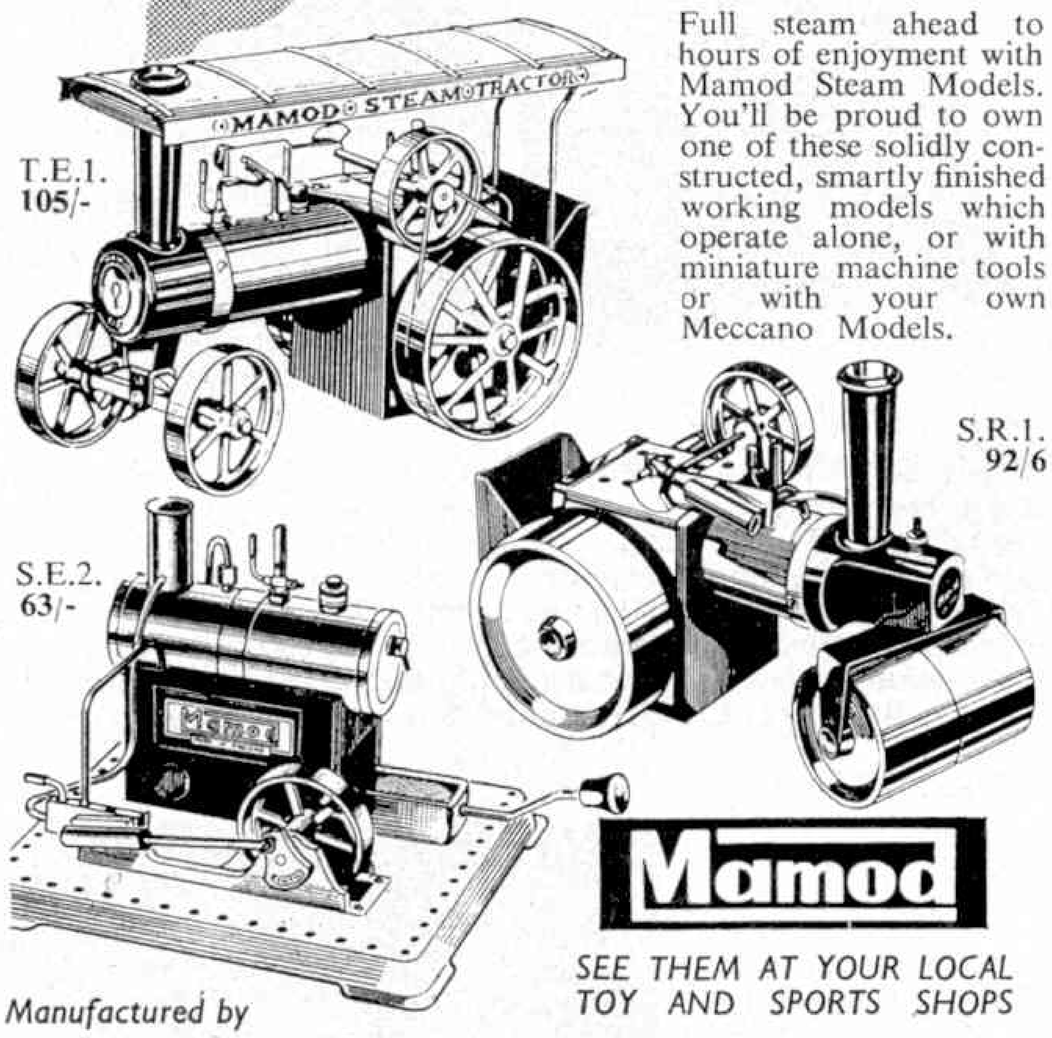
For those of you who own Airfix Motor Racing Systems, Airfix Products Ltd., have produced two brand-new ready-to-race models of the 1936 Auto Union and 1937 type W 125 Mercedes Benz. The original Mercedes Benz W 125 was powered by a straight eight cylinder motor of over 5½ litres, developing 646 bhp, while the Auto-Union had a rear-mounted V-16 engine producing some 500 bhp. Both of these models are to 1: 32 scale and are priced at **16s 6d.**



The latest additions to the Danish Tekno range of model commercial vehicles are No. 863. Scania Vabis 76, complete with Akerman Excavator with all working parts and No. 864. Hyster Fork Lift Truck, with working fork. These two models retail at **25s 9d** and **17s 6d** respectively, plus **2s** and **1s** postage and packing. Both are obtainable from Automodels Ltd., 70 Finsbury Pavement, London, E.C.2.

The bi-planes of World War 1 have always held a fascination for aero-modellers all over the world and to increase the range presently available, Revell have released three more fine models to 1: 72 scale. These new items are the H.627 Spad XIII, H.628 Sopwith Camel and H.629 Albatros D111. The complete kits are authentic as possible and cost **2s 0d** each.

full steam ahead



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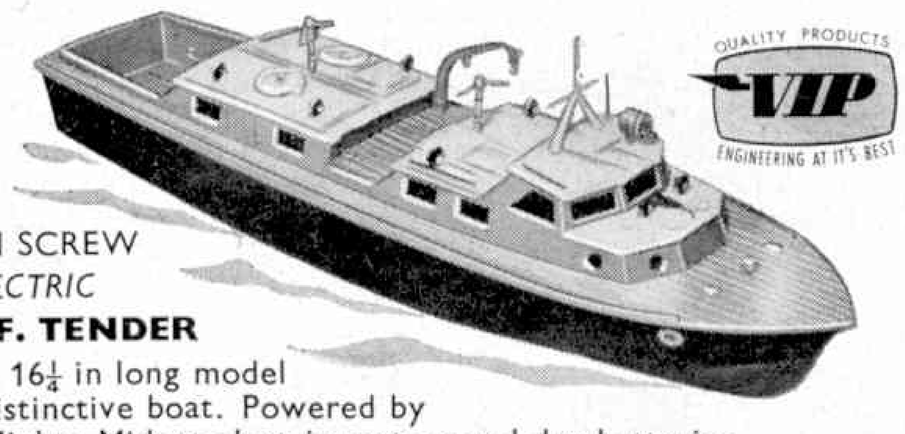

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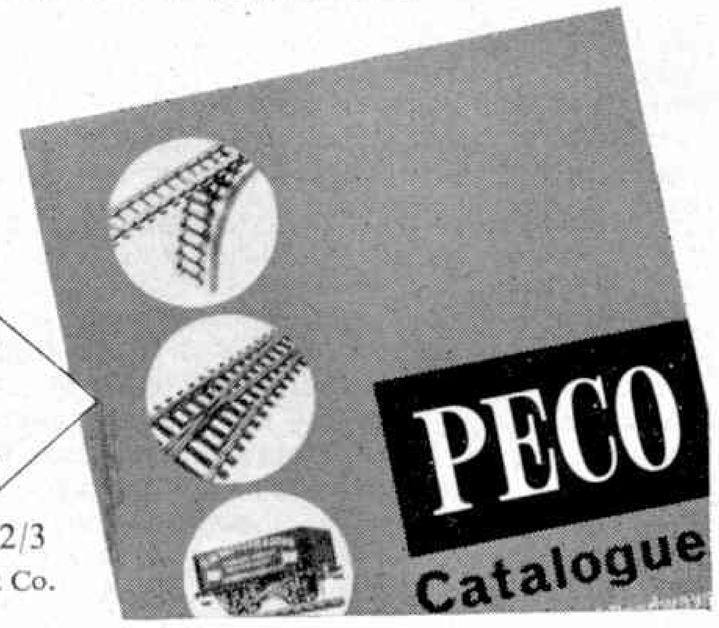

From Model shops 1/9 or by post direct 2/3

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THIS MONTH

meccano magazine

LOOKS AT

A Meccano counting machine . 30

A powered tiller 31

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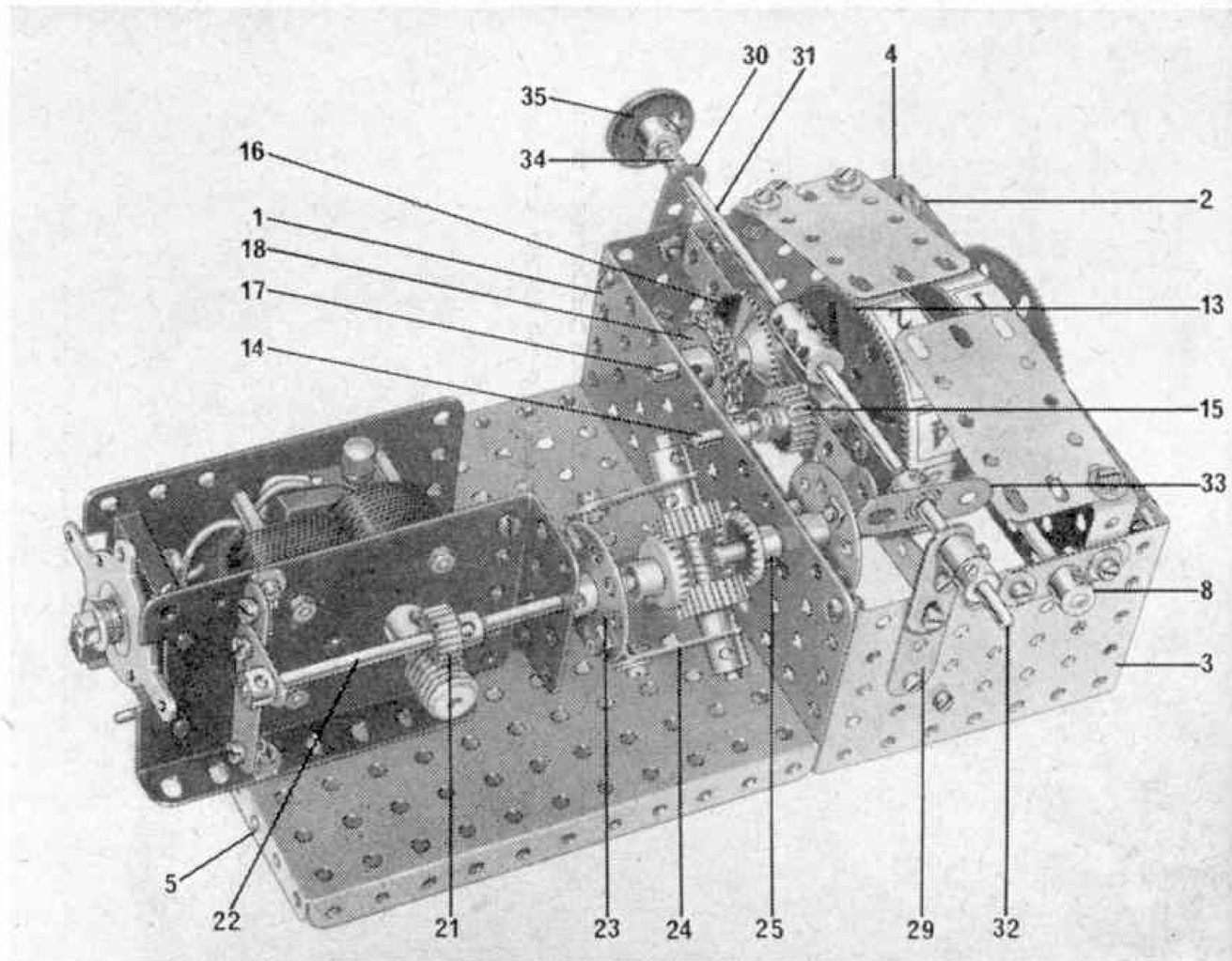
Running the Hornby Dublo Locomotive by pantograph . . 36

Old time 'Tin Lizzy' 38

An up to date mini-van . . . 39

BUILD WITH 'SPANNER'



The Meccano Counting Machine, building instructions for which are given in this article.

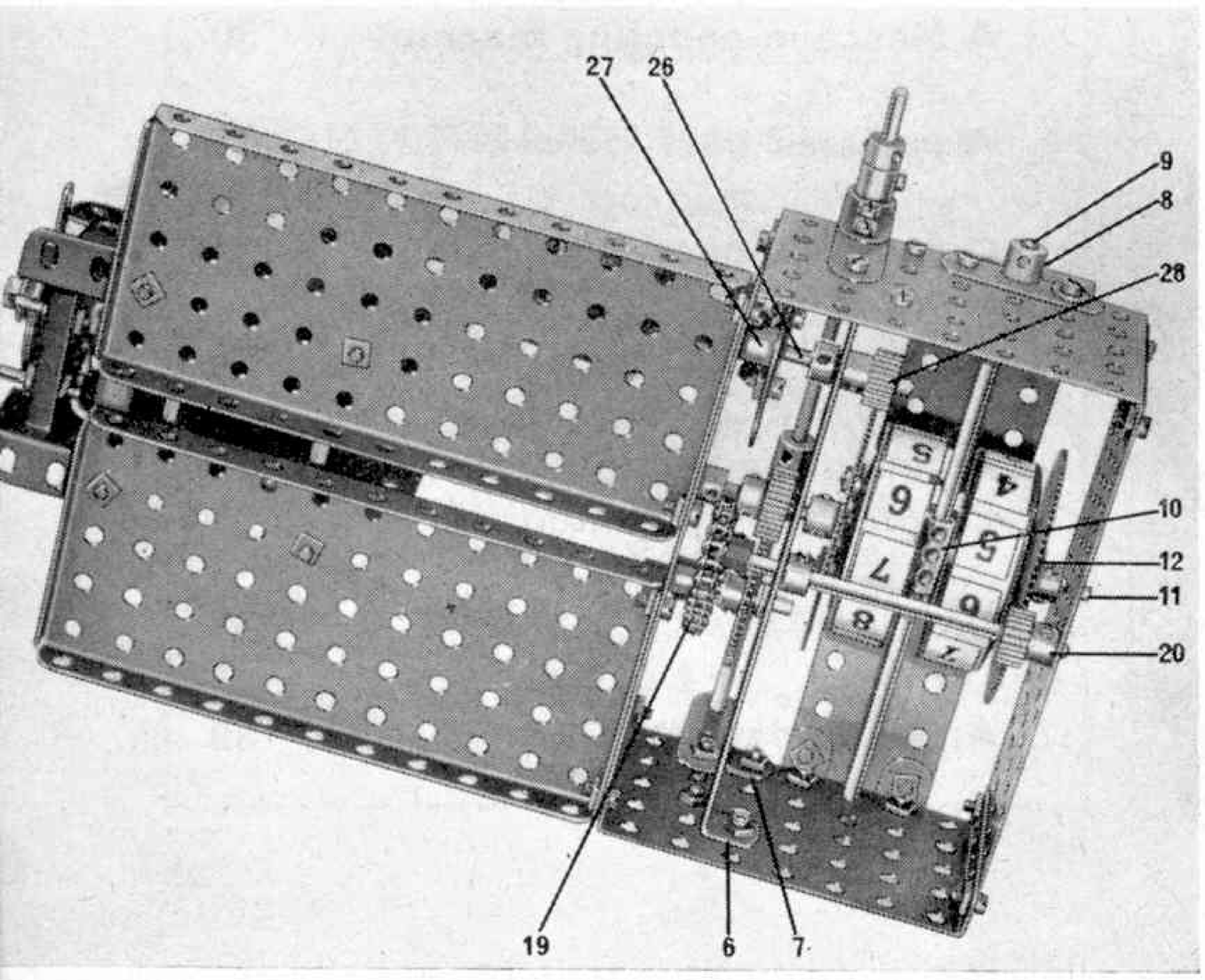
SCALE REPRODUCTIONS of structures such as cranes and bridges, or models based on the many different types of road vehicles in existence today, are popular with constructors working in Meccano. But I know from experience that working technical apparatus, in its own right, also appeals to many builders. Here are details of an intriguing yet uncomplicated machine which is capable of counting up to 99.

A rectangular box, constructed from two $5\frac{1}{2}$ in by $\frac{1}{2}$ in Flat Plates 1 and 2 and two $3\frac{1}{2}$ in by $2\frac{1}{2}$ in Flanged Plates 3 and 4, is bolted to two $5\frac{1}{2}$ in by $2\frac{1}{2}$ in Flanged Plates 5. Two $5\frac{1}{2}$ in by $\frac{1}{2}$ in Double Angle Strips 6 and 7 are then fixed between the insides of Plates 3 and 4, while a Double Arm Crank 8 is attached to the outside of each Plate, at the position indicated. A $6\frac{1}{2}$ in Rod 9 with a Coupling 10 secured in the centre, is journalled in these Cranks.

A $2\frac{1}{2}$ in Rod 11, carrying a $2\frac{1}{2}$ in Gear Wheel 12 with a Boiler End attached, is mounted as shown, using the centre transverse bore of the Coupling and one hole of Plate 2 as bearings. Another Gear Wheel 13 with Boiler End is placed on a 2 in. Rod 14, which is similarly mounted after being passed through the centre hole of Double Angle Strip 7. This Rod carries a $\frac{3}{4}$ in Pinion 15 that engages with a 50 tooth Gear Wheel 16 on a $1\frac{1}{2}$ in Rod 17. A $\frac{3}{4}$ in Sprocket Wheel 18 is also secured on this Rod, and drives a further $\frac{3}{4}$ in Sprocket Wheel 19 on a $3\frac{1}{2}$ in Rod, on which is fastened a $\frac{1}{2}$ in Pinion 20 and a Collar. Note that a strip of paper is glued to each Boiler End and the numbers 0 to 9 spaced evenly around the perimeter. An E15R Motor, to one side of which a Girder Bracket and a $2\frac{1}{2}$ in Strip held by Angle Brackets are bolted, is fixed to Flanged Plates 5 then a 1 in Corner Bracket is attached to the $2\frac{1}{2}$ in Strip. Next, a $\frac{1}{2}$ in

A Meccano counting machine...

The Counting Machine, viewed from beneath.



Parts required.—4 of No. 5; 2 of No. 12; 1 of No. 12b; 2 of No. 12c; 1 of No. 14; 1 of No. 15a; 2 of No. 16; 2 of No. 16b; 2 of No. 18a; 1 of No. 22; 2 of No. 24; 3 of No. 25; 3 of No. 26; 1 of No. 27; 2 of No. 27c; 2 of No. 29; 1 of No. 32; 47 of No. 37a; 47 of No. 37b; 18 of No. 38; 2 of No. 48d; 2 of No. 52; 2 of No. 53; 6 of No. 59; 3 of No. 62; 3 of No. 62b; 2 of No. 63; 2 of No. 70; 1 length of No. 94; 2 of No. 96; 2 of No. 120b; 1 of No. 133a; 1 of No. 161; 2 of No. 162a; 2 of No. 188; 1 of No. 230; 1 of No. 231; 1 E15R Electric Motor.

Pinion 21 is secured on a $4\frac{1}{2}$ in Rod 22, journalled in the Corner and Girder Brackets, and this is driven by a Worm on the armature shaft. Also on the Rod is a Bush Wheel 23, to which is bolted a $1\frac{1}{2}$ in by $\frac{1}{2}$ in Double Angle Strip with its lugs extended by Cranks 24, and a $\frac{3}{4}$ in Contrate Wheel on the end of the Rod. The Bush Wheel is free on the Rod, but is held against the Girder Bracket by a Collar.

A $2\frac{1}{2}$ in Rod carrying two loose $\frac{3}{4}$ in Pinions, spaced apart by a Compression Spring, is passed through the bosses of Cranks 24 and $\frac{3}{4}$ in Contrate Wheel 25, held in place by Collars, is adjusted with Washers to engage with the $\frac{3}{4}$ in Pinion Wheels, while the $\frac{3}{4}$ in Contrate Wheel on Rod 22 is positioned so as to engage with the Pinions directly opposite Contrate 25. A $2\frac{1}{2}$ in Strip is bolted across the face of a Bush Wheel 27 and then the whole assembly is fixed on a Rod 26, journalled in Plate 1 and Double Angle Strip 7, and held in position by a Collar and a $\frac{1}{2}$ in Pinion 28. The last Pinion 28 drives the Gear Wheel 13.

Two $2\frac{1}{2}$ in Strips 29 and 30 are bolted to the Plates 3 and 4. Strip 29 is reinforced by a Crank, having a Key Bolt in its boss. A $3\frac{1}{2}$ in Rod 31 is extended by means of a Coupling and a Rod with Keyway 32, which has a Double Arm Crank 33 secured to it. Finally, a Compression Spring 34 is placed on the Rod, and is held in place by a 1 in Pulley 35.

The Crank 33 is adjusted so that when the 1 in Pulley is pressed inwards and released quickly the Strip on the Bush Wheel 27 rotates half a revolution.

The model is completed by adding two $2\frac{1}{2}$ in by $1\frac{1}{2}$ in Flexible Plates as shown, thus leaving only one line of numbers in view.

The differential rotates when the Double Arm Crank is in the stop position.

...and a powered tiller

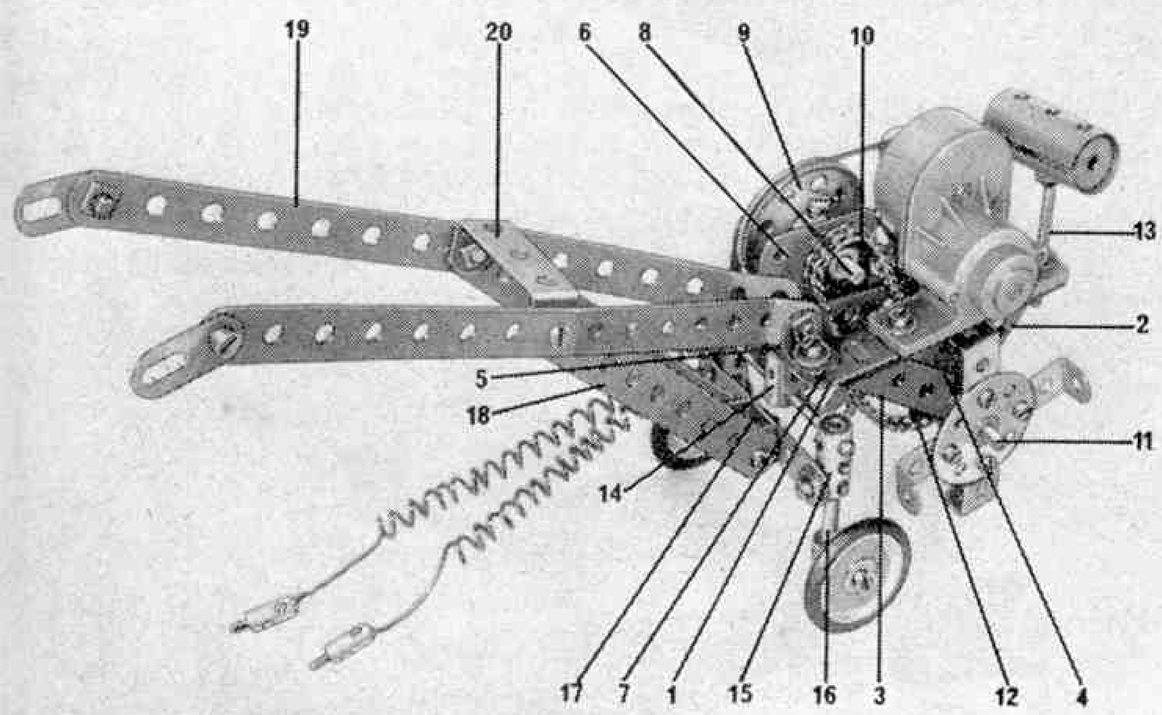
IF THE Counting Machine falls into the technical apparatus section, then this model must surely qualify as a scale reproduction. It is, in fact, based on an actual—and very successful—agricultural machine known as the Wolseley Merry Tiller. Power for the prototype is provided by a small petrol engine, but we make use of an Emebo Motor. To avoid any misunderstanding I must stress that the Motor drives the tilling blades, designed to dig-up the ground, and does not propel the machine forward. This is done by hand.

In our model, two triangular constructions are similarly built-up from a $3\frac{1}{2}$ in Angle Girder 1, a 2 in Strip 2 and a $2\frac{1}{2}$ in Strip 3, while the resulting space is covered by a $2\frac{1}{2}$ in by $1\frac{1}{2}$ in Triangular Flexible Plate 4. Both sides are then connected by two $1\frac{1}{2}$ in Strips 5, bolted through the end holes of the Angle Girders. The bolts fixing the rear strip in position also hold a Channel Bearing 6 and an Angle Bracket 7 in place. A $1\frac{1}{2}$ in Rod 8, carrying a $1\frac{1}{2}$ in Pulley 9 and a $\frac{3}{4}$ in Sprocket Wheel 10, is journalled in the Channel Bearing.

Each set of tilling blades is formed by an eight-hole Bush Wheel to which four 1 in by $\frac{1}{2}$ in Angle Brackets are bolted as shown, two pointing inwards and two outwards. The blades are fixed on a $2\frac{1}{2}$ in Rod 11, journalled in the apex holes of the two triangular sides, which also carries a $\frac{3}{4}$ in Sprocket Wheel 12, positioned between the sides and spaced on the non-boss side by three Washers. A length of Sprocket Chain connects the Wheel and Sprocket Wheel 10. An Emebo Motor is secured to the right-hand Angle Girder 1, being held in place by Nuts on a 2 in Screwed Rod 13. The Motor is joined to Pulley 9 by a $2\frac{1}{2}$ in Driving Band. At the top of Rod 13, a Sleeve Piece, holding two Chimney Adaptors, is fixed to represent a petrol tank.

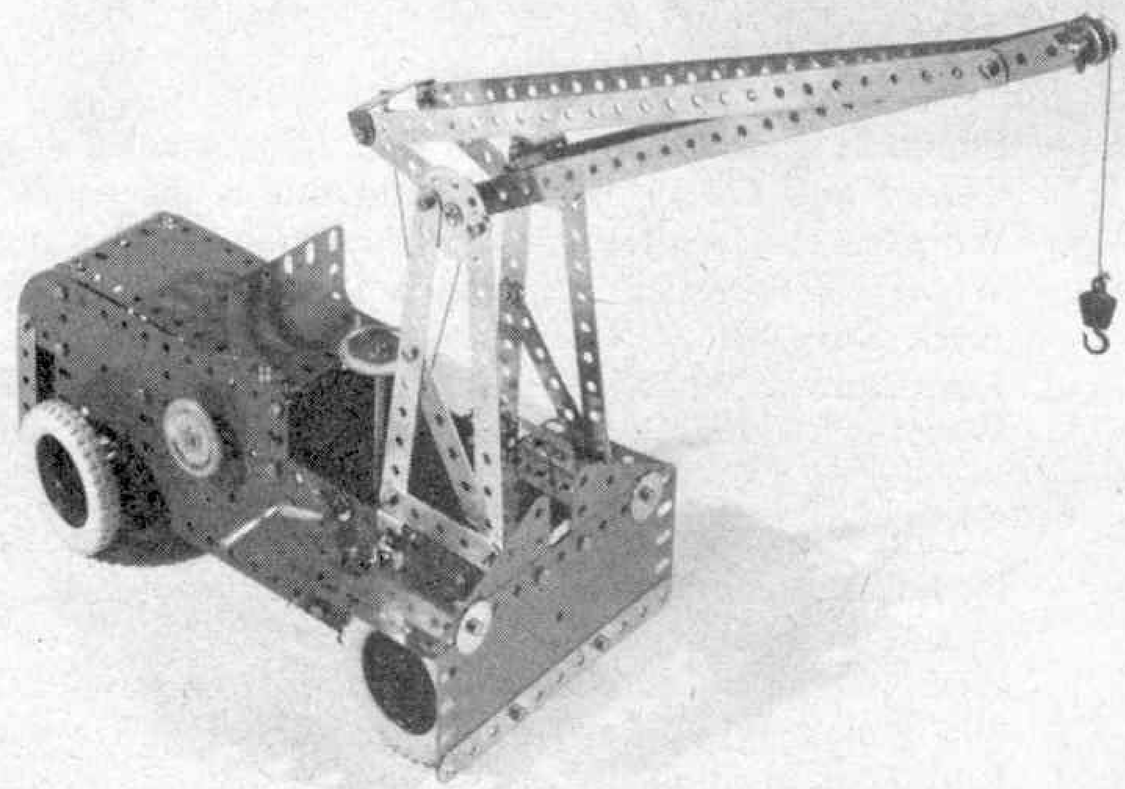
To the underside of the rear $1\frac{1}{2}$ in Strip 5 a Threaded Boss 14 is fixed, and this has a $2\frac{1}{2}$ in Rod secured tightly in its lower transverse bore. In turn, an ordinary Coupling 15, fitted with a $1\frac{1}{2}$ in Rod 16, is locked on each end of this Rod. Each wheel is a 1 in Pulley with boss, loose on a $\frac{1}{2}$ in Bolt mounted in a Collar fixed to the lower ends of $1\frac{1}{2}$ in Rods 16. The Pulleys carry Rubber Rings. A Double Bracket 17 is bolted to a $2\frac{1}{2}$ in Strip secured between Couplings 15 and a $4\frac{1}{2}$ in Strip 18 is attached to each of its lugs. These Strips are fixed, at their opposite ends, to $7\frac{1}{2}$ in Strips 19, at the same time bolting in place a $1\frac{1}{2}$ in by $\frac{1}{2}$ in Double Angle Strip 20. Strips 19 are bolted, one to Channel Bearing 6 and the other to Angle Bracket 7, while, at their other ends, Fishplates are added to form handles.

This model tiller is powered by an Emebo Motor.



Parts required.—2 of No. 1b; 2 of No. 2a; 3 of No. 5; 2 of No. 6; 2 of No. 6a; 2 of No. 9b; 2 of No. 10; 1 of No. 11; 1 of No. 12; 8 of No. 12b; 2 of No. 16a; 3 of No. 18a; 1 of No. 21; 2 of No. 22; 1 of No. 23a; 2 of No. 24; 30 of No. 37a; 28 of No. 37b; 11 of No. 38; 1 of No. 48; 2 of No. 59; 2 of No. 63; 1 of No. 63c; 1 of No. 81; 1 length of No. 94; 2 of No. 96a; 2 of No. 111a; 1 of No. 111c; 2 of No. 155; 1 of No. 160; 1 of No. 163; 2 of No. 164; 1 of No. 186; 2 of No. 222; 1 Emebo Motor.

by **The Editor**



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Colourful move by Meccano

'MECCANO GETS with it' is what they are saying in the shops of Great Britain—a phrase which heralds a dynamic change in the presentation of the world's most famous construction system.

From the days when Frank Hornby first invented this wonderful engineering toy, in the early 1900's, until now, Meccano has continually made adjustments to the progressive march of events, but it has acquired its greatest realism in the new presentation which we can now describe to 'M.M.' readers. For the time being, the alterations apply only to Meccano sold in this country.

First big change is in the colour scheme, in which the present green and red is being replaced by a striking new combination of yellow, black, silver, nickel, red, blue and gold. This change has been decided on not only because of the brighter visual appeal of the new colours in conjunction with each other, but also because these are colours now prevalent in the building and engineering world. Young and old enthusiasts will find that they add an impressive air of realism to the whole range of Meccano models.

As someone observed when the new colours were first shown to the staff at Binns Road—and who should know better than the people who are actually designing and making Meccano—'You realise as you look at it that a Meccano crane in yellow, black and silver looks like the real thing, while a Meccano crane in red and green looks like—well—a Meccano crane'.

It was a subtle observation and as modellers get accustomed to the new colours they will realise the truth that lies behind it.

Generally speaking the colour changes will be as follows: Strips and similar parts will now be in silver to give a true feeling of constructional girder work, the filling-in plates will be yellow, since this is the most typical engineering colour of the day, and base plates, etc. will be black to lend emphasis and accent to your models. Transparent plates retain their present neutral shade. Red and blue wheels will give a final touch of brilliance while pulley wheels and gears will remain in their characteristic and attractive gold colour.

You will find the new colours illustrated on the inside and back covers of this month's 'M.M.', but to give you a further idea of the way in which the changes operate I have selected some of the most popular parts and have indicated, at the side, their present colour and their colour in the new sets. I should add that the part numbers will remain the same, but the prefix 'N' will be used to designate new part numbers as against the old ones. For instance, No. 1 12½ in Perforated Strip becomes No. 1. N., No. 1.A Perforated Strip is No. 1 A.N., in the new series, etc.

The second very important thing about the new-style Meccano is its highly-impressive pack. The larger parts, as now, are pinned to a plastic tray but this will be white instead of yellow, as in the current range. In place of the lidded box, the tray will have a surrounding frame which in turn slips into a colourful, all-embracing sleeve,

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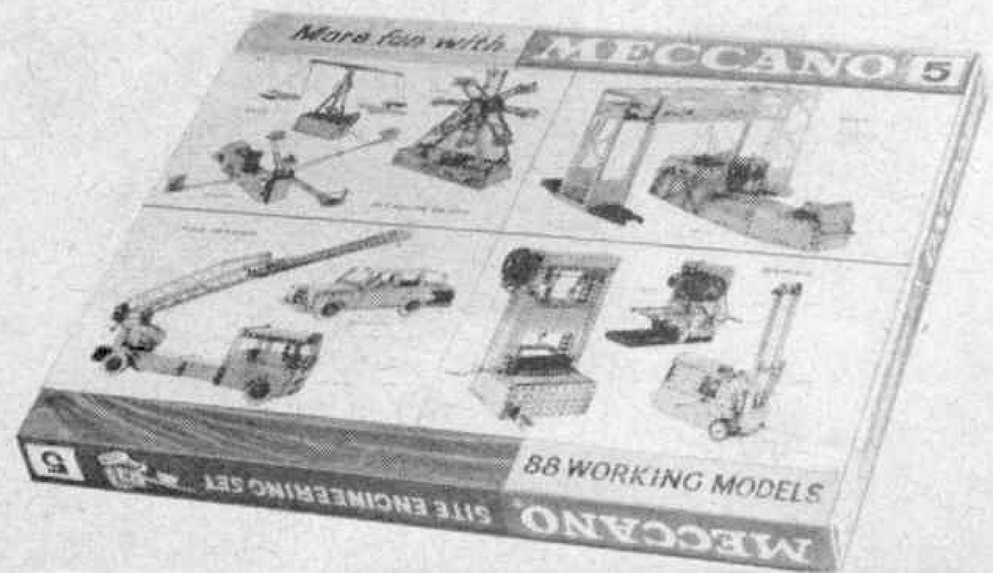

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illustrated front and back with many of the fascinating models you can build with Meccano. The Books of Instruction provided show you how to set about this but, of course, the true challenge of the Meccano hobby—and its vast scope—lies in the fact that the keen builder always wants to try his hand at making his own models, and that these *can* be built, in infinite and endless variety. The third big change in the new Meccano is the fact that, although the set numbers remain virtually the same and the prices are unchanged, each set from the No. 1 upwards has its own special description, as well as a number. These thematic titles add a touch of freshness to each particular set, and the full list of numbers and titles is as follows:—

Playset

No. 1 Junior Set
,, 2 Super Junior Set
,, 3 Highway Vehicles Set
,, 4 Airport Service Set
,, 5 Site Engineering Set
,, 6 Ocean Terminal Set
,, 7 Mountain Engineer's Set
,, 8 Breakdown Crew Set
,, 9 Master Engineer's Set
,, 10 Oak Cabinet

The No. 0 Set undergoes a special change of its own, being transformed into an appealing new introduction known as Playset Meccano. This is for the youngest members of the family and will serve as a simple, yet attractive, introduction to a hobby which, as so many of us know, can last a lifetime. This introductory outfit, and the Junior and Super Junior Sets, have their own special presentation. All three will now appear in handy-to-carry cases with neat plastic handles, so that proud youngsters can carry them around just as skilled mechanics and technicians carry their own sets of tools. What is more, the parts making up the Junior Sets are all in roll-kit form—a kind of Meccano 'Tidy'. After you have built your model, and taken it down, it is sometimes a labour of love to fit the parts back into their compartments. It will surely be appreciated—particularly, I imagine, by mothers—that a means of tidying them away has been provided.

Having outlined the general pattern of the new look sets, I want to add something for the benefit of all those Meccano builders who have green and red outfits. We have made special arrangements with leading stores in all the big cities—London, Birmingham, Manchester, Leeds, Glasgow, Cardiff, etc., to carry stocks of existing Meccano Sets until at least the end of 1965, and we add the further assurance that spare parts in red and green colours will be available for some time yet.

Accessory outfits will shortly be available in the new colours, but for a considerable time red and green sets will also be in the shops, and it is planned that production of red and green accessory sets should go on side by side with that of yellow, black and silver.

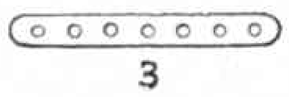
If you have any particular inquiry that needs an answer you should contact your nearest Meccano dealer and he will be glad to advise you.

1 Cranes look particularly impressive in the new Meccano colours and a popular model for the builder to tackle is the mobile crane from Set No. 4, seen here.

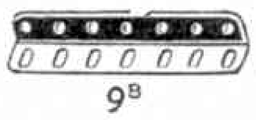
2 A grand idea for the youngest members of the family is Playset Meccano which you see illustrated here. It comes in an easy-to-carry case and the parts themselves are in roll-kit form.

3 Back view of one of the new-style Meccano boxes. This is the pack for the No. 5 Outfit, now known as the Site Engineering Set. As you can see, a number of models are illustrated on the box itself. To see what the front looks like turn to the coloured illustration on the inside and back covers of this months 'M.M.'

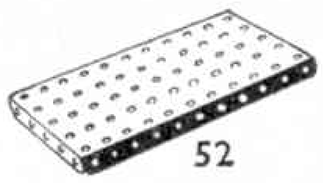
Old colour: Green
New colour: Silver



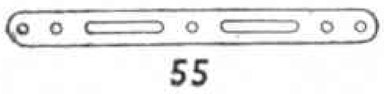
Old colour: Green
New colour: Silver



Old colour: Red
New colour: Black

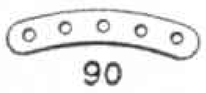


Old colour: Green
New colour: Silver

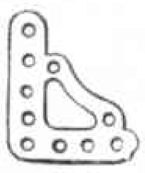


Old colour: Green
New colour: Nickel

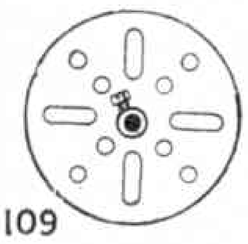
Old colour: Green
New colour: Silver



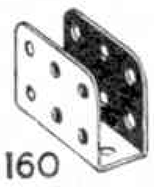
Old colour: Green
New colour: Silver



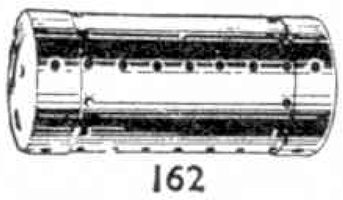
Old colour: Red
New colour: Black



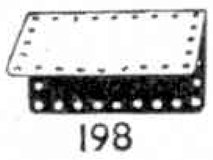
Old colour: Green
New colour: Silver



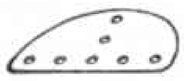
Old colour: Red
New colour: Black



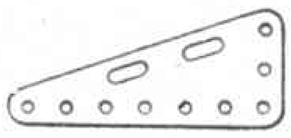
Old colour: Red
New colour: Yellow



Old colour: Red
New colour: Yellow



Old colour: Red
New colour: Yellow



A scene emphasising how the use of contrasting styles of modern and old world buildings can give accent to your railway layout

Buildings for effect

by **Linesman**

THERE MAY well come a time in the development of your Hornby-Dublo Train Set when you feel that adding a town or village to your layout will increase its appeal tremendously.

Model towns or villages need not occupy large areas and, if you are careful, you can usually arrange them in quite small spaces. You will find, in fact, that by using skill in positioning your buildings the overall effect can be to make the layout appear much bigger than it really is. Of course, a great help in this direction is the use of background sheets such as those made by Hamblings.

Aided by the use of trees in suitable positions, buildings can be made to fit in quite naturally with the rest of the scenery. A small village can look particularly effective when placed alongside the main line of a railway, provided that you remember not to place the buildings too close to the railway track. And, of course, it is a useful aid to realism to fence the railway off. Merit and Airfix are among the firms who make realistic model fencing.

The choice of buildings to use in a scene such as we are discussing depends on the type of area the layout is intended to represent. While, for instance, it would look rather odd to have a modern block of flats sited somewhat incongruously among half timbered houses and old-world cottages, you will see from the views pictured here that the old and the new can be blended quite harmoniously in a comparatively small space.

Take care, of course, not to place older buildings too close to re-developed areas where modern cinemas and supermarkets may exist.

Before the large number of kits now available was introduced, buildings of any sort had to be made from scratch, using wood, card, and any other materials available, and although many fine structures were built in this manner, the items manufactured by various firms are very difficult to emulate.

The two types of building kit produced for the model railway market are made either from plastic or card. Cardboard kits are produced by Superquick (E. Keil & Co.). These are very realistic and include everything needed to assemble them, except glue, modelling knife and rule. The kits have the brickpaper printed on to the appropriate parts, and no colouring is needed except in places where the card has been cut or folded. Superquick buildings consist of 'A', 'B' and 'C' series.

'A' series has nine different kits of purely railway buildings, with the exception of No. A.9 which is a kit of Four Cottages—presumably railway cottages.

'B' series is made up of a large variety of buildings both

old and new. One or two buildings from this series can be seen in our pictures.

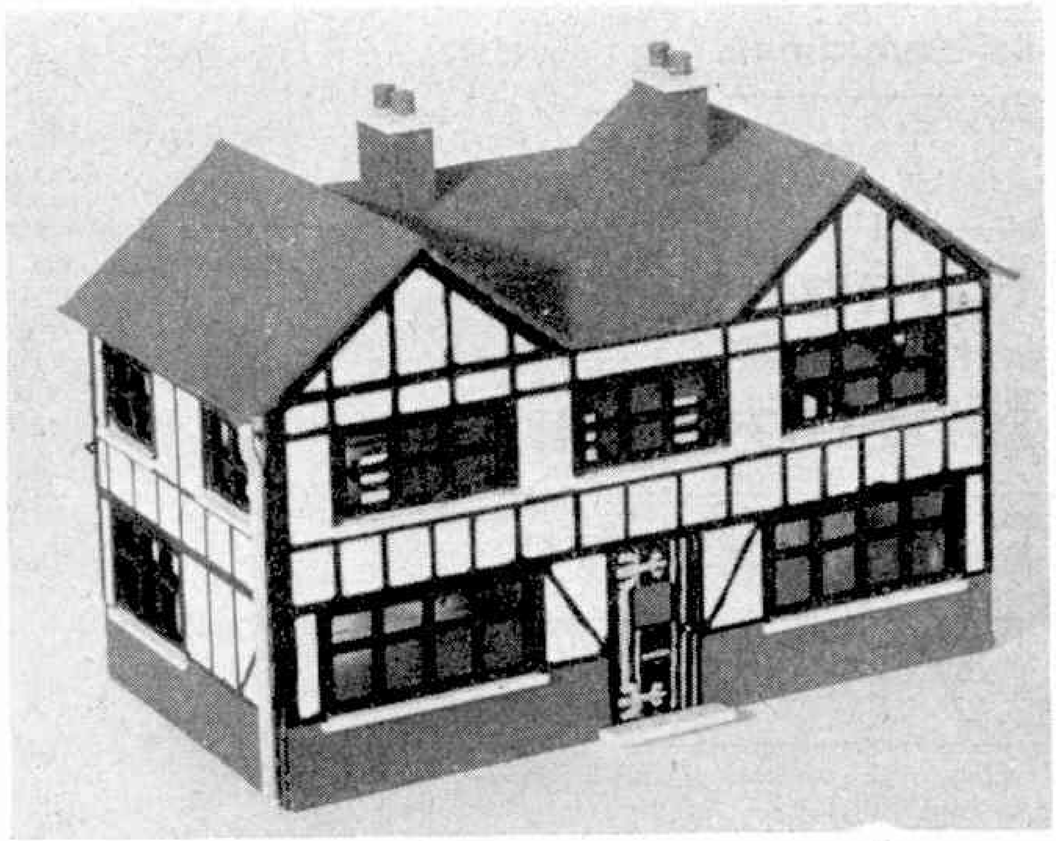
Four low-relief buildings forms the 'C' series, which modellers should find useful if their layout is of the narrow type because the total width of each building is approximately a quarter of the width of the building modelled in full.

Many modellers use this system to give their background a three-dimensional effect. Whole model towns can be built up on this principle, but remember to place the buildings where the ends or backs cannot be seen, because in this series the backs are open, exposing the materials from which they are built.

The assembling of these kits is quite simple, and you will find that all you have to do is to press the partly cut-out pieces from the sheet of printed cardboard, fold or cut, and then glue with Bondfast adhesive, which is sold in yellow plastic bottles.

As I mentioned earlier, the kits require no colouring except where the card has been cut or folded. The white strip of card showing should then be painted with Indian ink or matt black paint, according to your own preference. Prices of kits range from 2s 11d to 5s 10d.

The remaining two series of buildings are of the plastic type, and are produced by Airfix, and Tri-ang Real Estate. The Airfix range of buildings cost 2s 0d a kit. Only three of the kits produced by Airfix are of private buildings, the others being of the railway installation. The three private houses are very suitable for including in models of villages or towns.



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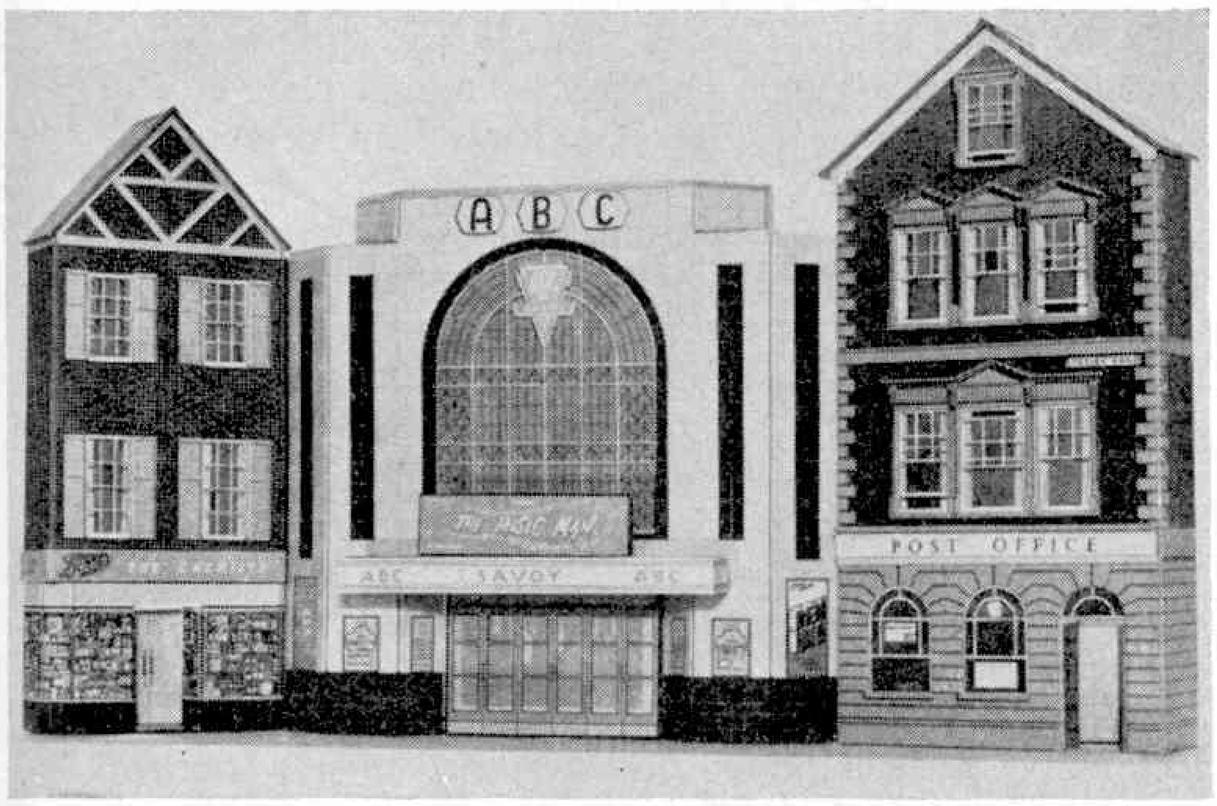
Both Airfix and Tri-ang kits are built to OO scale, as also are the Superquick range of buildings. The Airfix kits are unpainted and are supplied in kit form complete with instructions. The three buildings mentioned previously are a bungalow, a detached house, and a country inn, the last of which is illustrated.

The Tri-ang Real Estate range includes a very wide variety of kits, from a Hollywood bungalow down to 'Dove Cottage', a typically English rural dwelling. The range also includes the 'Grange', a most attractive half-timbered building suited to almost any layout, and other buildings include the Village Inn, a hardware shop, post office, the Tea Shoppe, 'Oak Tree Cottage', and 'Marigold Cottage'.

The kits are easily assembled with the aid of polystyrene cement. All parts are pre-painted, and even Swedish lichen is supplied with the kit for bushes, flowers, and other plants. Prices range between 2s 11d and 12s 6d. There is, at 24s, a village church complete with chimes which is a truly magnificent model.



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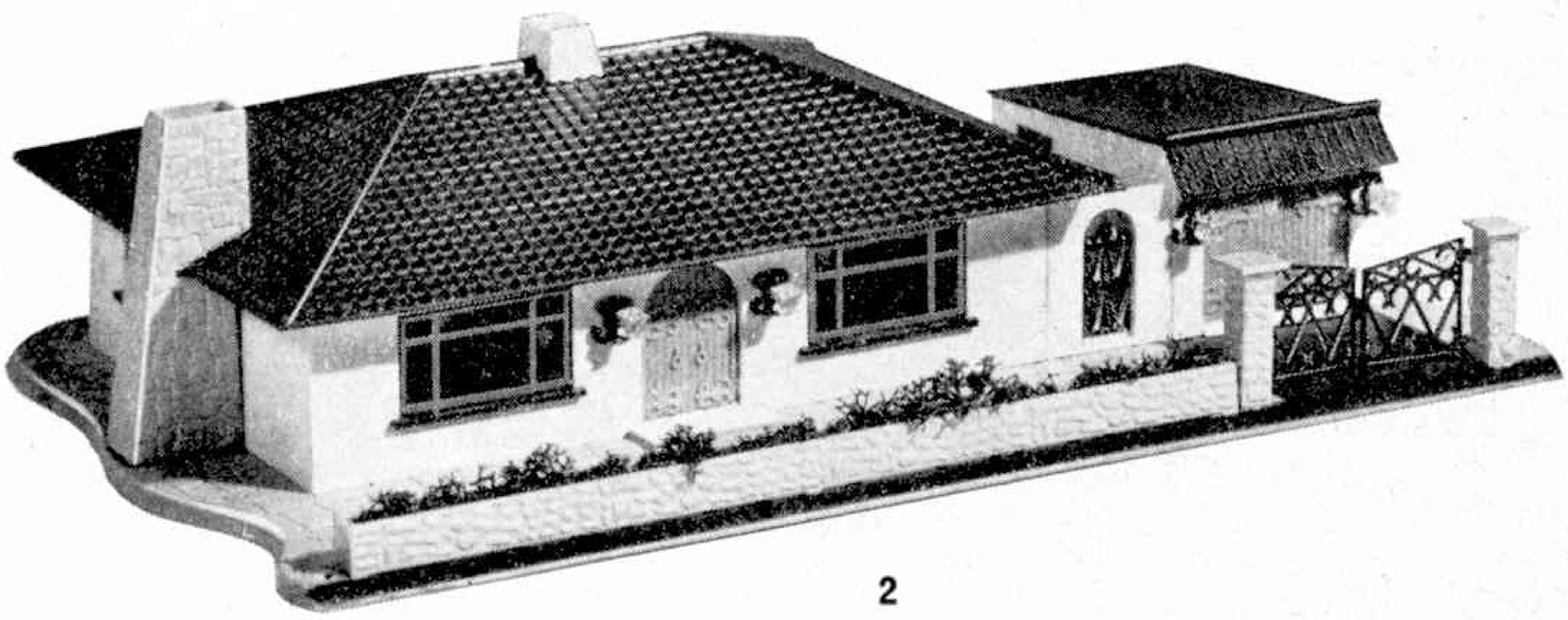

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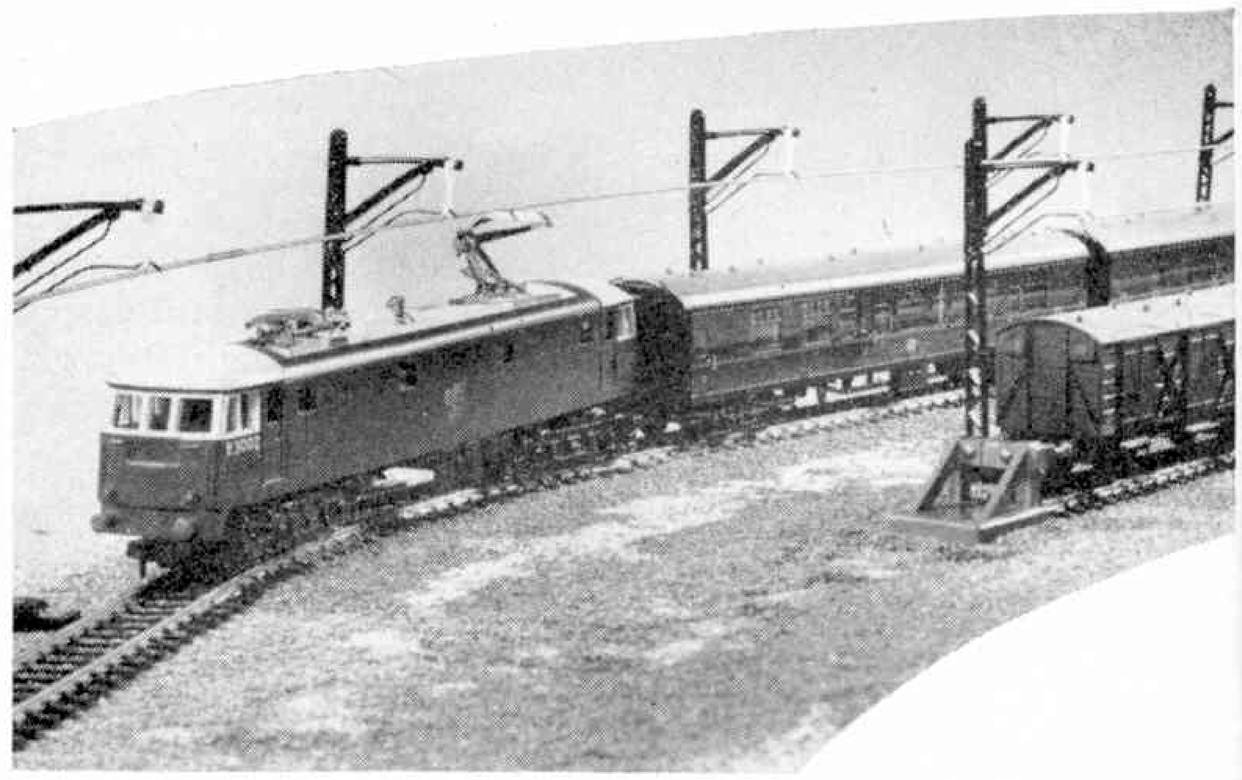
1 A typical Superquick building consisting of a cinema, a post office and a chemist's shop. This is one of the low relief-type of buildings mentioned in the article.

2 From Tri-ang's Real Estate range comes this Hollywood bungalow, complete with opening gates and garage doors.

3 This inn, with prominent gables and moulded half-timbering, is from Airfix.

by **Layoutman**

Running the Hornby Dublo Locomotive by pantograph



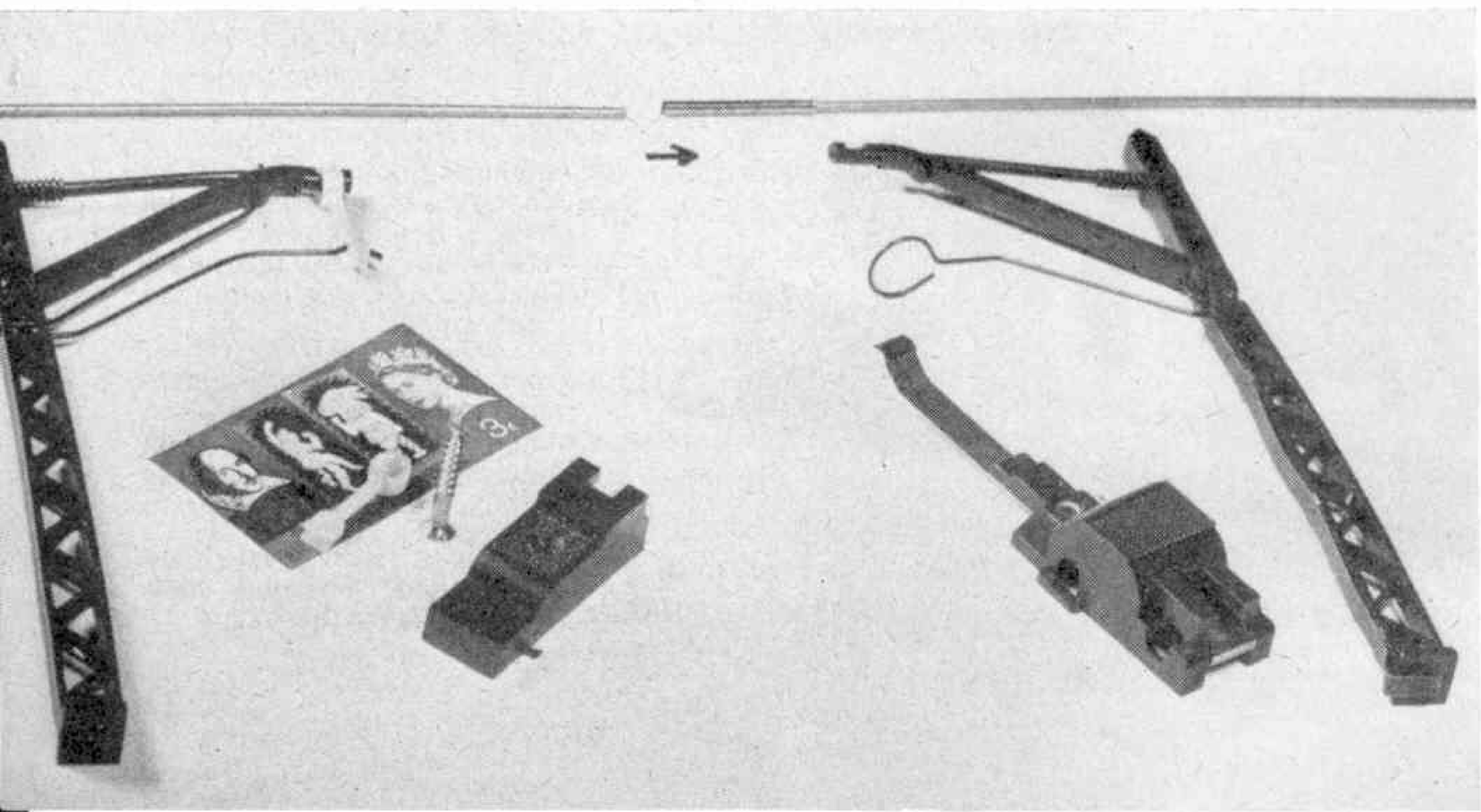
THE NEW 3,300 hp Hornby Electric Locomotive which is sure to prove a great favourite with model railway lovers is designed to operate not only from two-rail track but from overhead equipment, and Tri-ang catenary provides a very suitable system.

The operator of this fine new loco chooses between track and overhead control by fitting a plug on the roof of the locomotive into one of two sockets. A point to remember when operating the locomotive is that the trailing pantograph is always the one to be raised when the locomotive is in motion. Should the engine be run in reverse the pantographs should be changed over so that once again the rear pantograph is the one in contact with the catenary.

To link Tri-ang catenary with Hornby-Dublo Two-Rail track you need to buy a number of separate parts which are shown in one of our illustrations. They are: R419 single track mast, the mast link (shown separately, but which can be bought with the mast), R314 mast base (screw-fixing type) which *must* be used with Hornby-Dublo track, and R415 catenary wire. You will also need ½ in. by No. 2 gauge brass wood screws for fastening down the mast base. To assemble, slot the mast into the groove in the screw-fixing type base, being sure to push the edge of the base up to the sleepers, where it should be screwed down to the baseboard. Next, fit the mast link to the extreme end of the mast arm by simply looping it over the end. Pressing on the curved portion of the spring wire under the mast arm, fit the end through the small hole at the lower end of the mast link, so stabilising it. All you need to do now is to clip a length of catenary wire into the lower portion of the mast link which is shaped to take it. Each length of catenary wire has a joining clip so that sections can be quickly linked together as the masts are erected.

Power is supplied to the overhead catenary by using the Tri-ang phase 2 power mast (No. X353) and the power mast base (No. X354). Of course, this is for the elementary circuit. Extensions would require further power masts according to the plan adopted. The mast is fitted into the power mast base and then clipped in place between the Hornby-Dublo sleepers in the same place as a terminal connector would be. Two leads from the power control unit are then used to supply current to the mast base and from there to the overhead wire. It should be pointed out that in the case of the power mast the mast link is looped over the top arm in the normal manner, but the lower end is pushed through the wide loop in the spring wire and clipped straight on to the catenary.

Finally, if you are operating two locomotives on the same track, one by catenary and one in the normal way through a separate control unit, you will need to take special notice of the instructions provided with the pantograph locomotive as the common rail will always be the one furthest away from the power mast. The locomotive must be placed on the track with the letter C, which is on one side of the housing, above this rail.



Top picture: operating the 3,300 hp Hornby Electric locomotive by pantograph. (Left) The parts of the Tri-ang system needed to form a catenary for use with Hornby-Dublo track. The illustration shows (left to right) the single track mast with mast link fitted, the mast link and a ½ in. No 2 gauge wood screw pictured against a Shakespeare quatercentenary stamp to show their size, the screw-fixed base for the ordinary mast, the clip-in base for the power mast, and the power mast itself. Two lengths of catenary wire are shown above and the small arrow indicates how they are pieced together.

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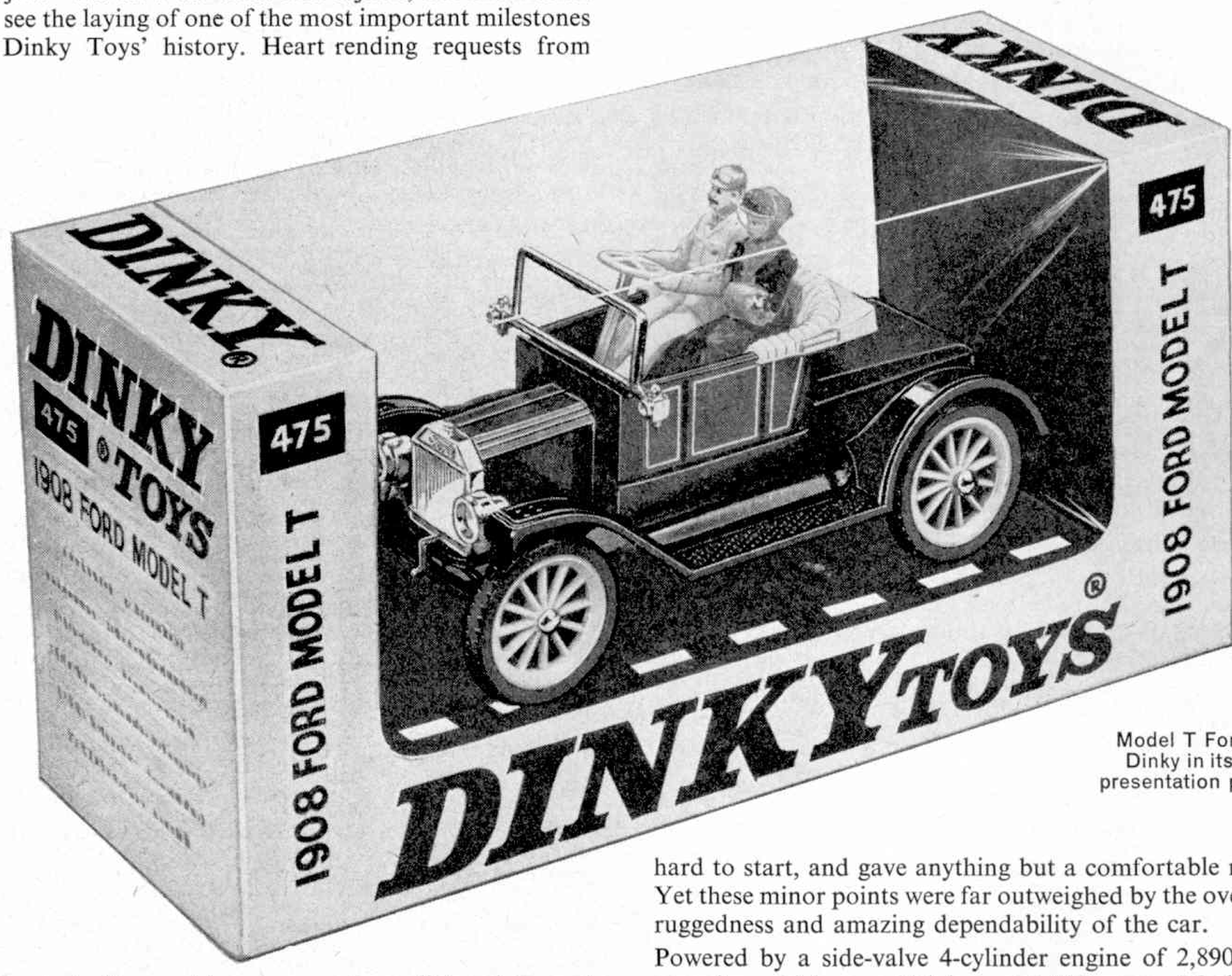
Dinky Toy news by **Chris Jelley**

OLD TIME 'TIN LIZZY'

VAST NUMBERS of model collectors—and particularly those who have contacted Meccano Limited on a certain subject—can now sit back and rejoice, for this month we see the laying of one of the most important milestones in Dinky Toys' history. Heart rending requests from enthusiasts the world over have been listened to and acted upon, with the result that our designers have reached back into the early days of motoring and have emerged with a captivating veteran car. It is the father of all mass-produced cars—the legendary Model T Ford, and is numbered 475 in the Dinky Toys sales list.

An air of complete contrast is given to this presentation in the Dinky range of its 'oldest' car by its exciting presentation in the newest form of pack. Instead of being enclosed in the familiar yellow and red cardboard box the Model T Ford will appear in a new Visi-Pac, illustrated here. As you can see, it gives the model a showroom look and enables enthusiasts to see just how attractive the model is without having to open the box.

Inaugurated by Henry Ford, the Ford Motor Company—later to become the biggest manufacturer of automobiles in the world—was incorporated on June 16, 1903. From a small beginning with a Ford Model A, the company progressed through a series of models, identified by letters, until, in late 1908, the first Model T emerged from the Ford factory at Dearborn, Michigan, U.S.A. This vehicle was the culmination of years of work and experience obtained from the earlier models produced by the company. It combined lightness with power and durability, while still being comparatively low in price. Admittedly the 'Tin Lizzy', as it became known, was hard to start, and gave anything but a comfortable ride. Yet these minor points were far outweighed by the overall ruggedness and amazing dependability of the car.



Model T Ford by Dinky in its new presentation pack.

Powered by a side-valve 4-cylinder engine of 2,890 c.c. capacity, which gave 20 b.h.p. at 1,800 r.p.m., Model T was capable of 40 m.p.h. flat-out. Transmission was by means of a two-speed and reverse epicyclic gearbox and so this top speed, high for 1908, was no mean feat. On the early versions a lever to engage top gear was provided, but a gear pedal was standard on most of the later versions.

If Model T in real life was the world's most popular car, then Model T in miniature may well prove to be the

world's most popular Dinky Toy. It really is a magnificent little replica, fitted with windscreen, seat, spoked wheels and replaceable tyres. Even the acetylene gas generator, used in those far-off days for the lamps, is represented on the right hand running board.

The body is finished in blue with side panels edged in yellow, while the running boards and mudguards are black. To my mind, the most attractive aspects of all are the gold-plated radiator, headlamps, sidelamps and windscreen surround, while to add an even more true-to-life air, the model is fitted with a driver and lady passenger in period costume.

Approximate overall dimensions of the Model T Ford are: length $3\frac{1}{8}$ in., width $1\frac{1}{2}$ in., height $1\frac{4}{5}$ in., wheelbase $2\frac{3}{8}$ in.

I think our Dinky Toys expert here at Meccano best summed up the whole thing with the words, 'A great model of a great car as a monument to a great man'.

The new Dinky A.A. Patrol Van

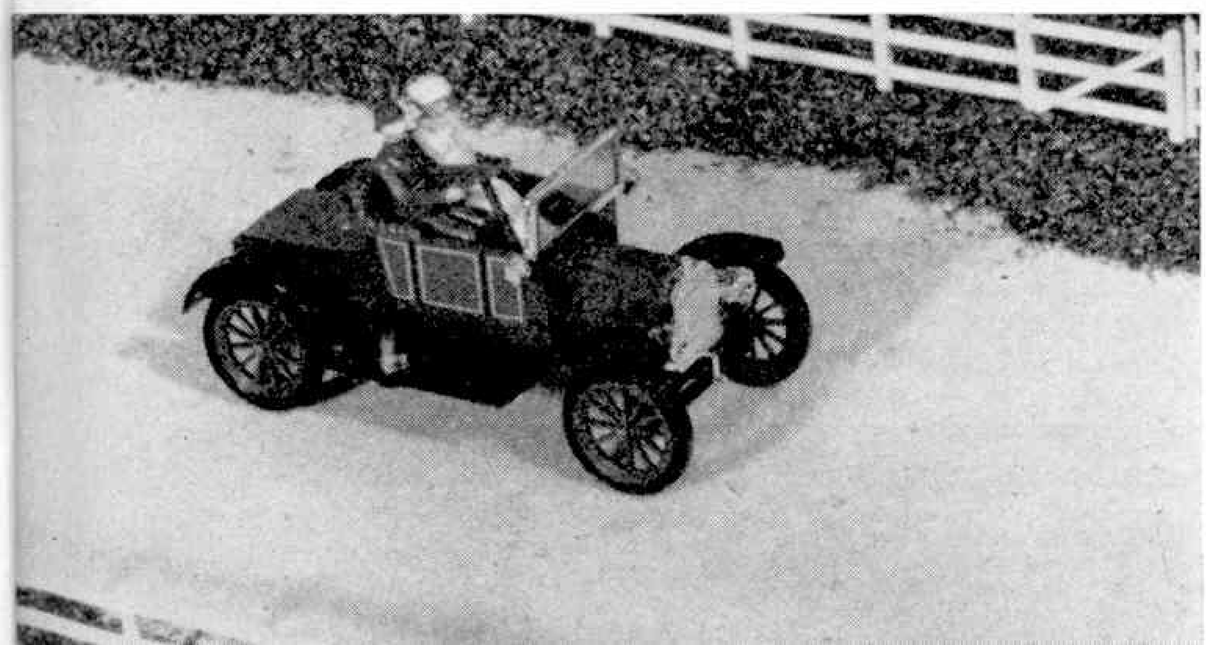
. . . and an up to date Patrol Van

I have no doubt that many of you were delighted at the news about our A.A. Patrol Van (Dinky Toys No. 274) released last month and illustrated on the back page of the July 'M.M.' Externally, the model closely follows the distinctive lines of its Austin prototype, which, of course, is an unmistakable vehicle in its own right. Features include Prestomatic steering, windows and interior fittings, plus the usual 4-wheel suspension. Such a novel model as this, however, would not be complete without an additional feature of its own, and so it has been fitted with a pair of opening rear doors. Finished in the unmistakable bright yellow of all A.A. vehicles, the model has a large A.A. crest on each side door and a small crest flanked by the words 'Patrol Service' on each side of the van proper, and on the headboard.

B.M.C. produced both their Austin and Morris Mini Vans as follow-ups to their highly successful Mini Cars. Both the vans and the cars have a similar power plant—an 848 c.c. engine, mounted transversely, which develops 34 b.h.p. at 5,500 r.p.m.—but the gearing is lower on the van. Experience has proved the Mini Van to be safe and reliable. This, combined with its low running cost, small size and high equipment-carrying capacity, makes it an excellent choice for A.A. work.

While on the subject of the Automobile Association—for many years the A.A. Patrolman has been distinguished by his brightly-coloured motor-cycle combination, fitted with a large equipment-carrying box as opposed to a passenger-carrying sidecar. In January last year, however, the A.A. announced a gradual change-over from motor-cycle Road Service Outfits to small vans for all its Patrols, and on March 26, 1964, the first 200 vans were officially handed over. Since then the re-equipment has proceeded rapidly until, today, the 'Mini Van Patrol' is a common sight all over the country.

The Model T Ford on the road.



Everyone, I am sure, will agree that the A.A. Patrolman, always polite and helpful, is one of the greatest boons to modern motoring, and therefore it is interesting to take a quick look at the history of this now famous service. This, I was surprised to discover, was founded in 1905 with, of all things, pedal cycles! In the early pioneering days Patrols carried little or no equipment; indeed only an armband served to show that they were the representatives of the A.A. on the open road. By 1909, however, the first motor-cycle solo machines, ridden by Patrol Superintendents, had appeared on the roads in A.A. livery, but it was not until 1919 that the first 'beat' Patrols transferred from pedal power to horse power with the issue of $2\frac{1}{2}$ h.p. Chater Lea machines with sidecar boxes. These early motor bikes carried only 29 items of equipment, including two red flags. (The modern Mini Vans carry 97 items—including two red flags!)

Full-scale mechanisation did not come until 1923 when a sizeable proportion of the Patrol force was equipped with motor-cycles, thus starting the basic pattern of road service so familiar today.

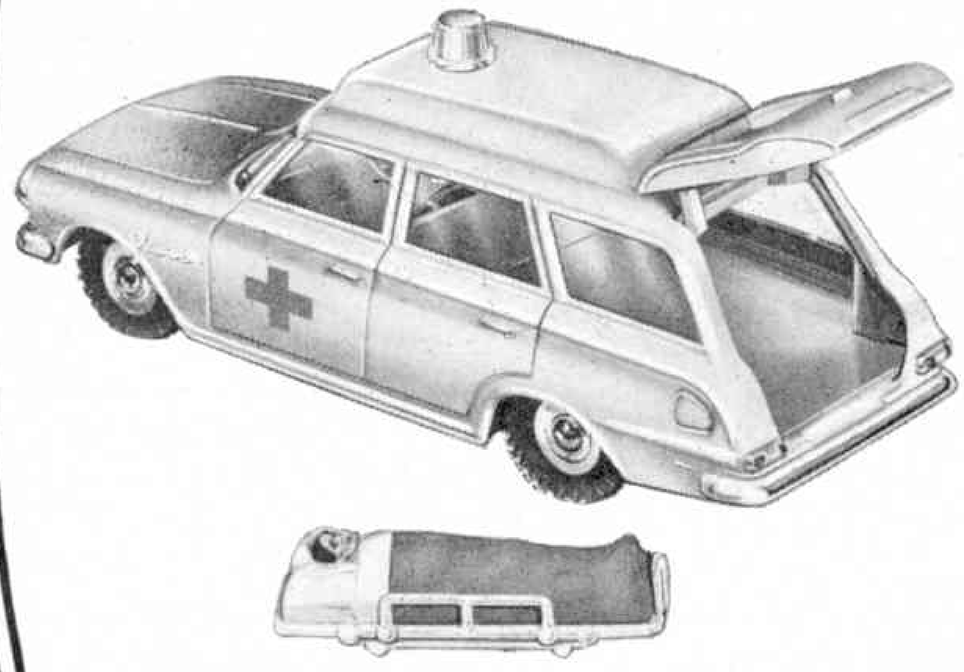
Mechanisation continued up to the outbreak of the last war, the original Chater Lea machines being superseded by Triumph and B.S.A. models. After the war, all Patrols were issued with motor-cycle combinations, and in 1949 the association launched its radio-controlled breakdown service with vans. In 1952 radio-control was extended to the motor-cycle Patrols and has continued ever since. Today, the A.A. operates one of the biggest private radio networks in the world, extending for more than 60,000 square miles.

SEE THE NEW DINKIES *IN ACTION* ON TV!

Now the new Dinky toys are on ITV! You can see them in action if you live in London, the South, the Midlands, the North. They start appearing from July 21st to 24th, 5 p.m. - 7 p.m. Look out for them—and be first with the latest models.

VAUXHALL VICTOR AMBULANCE

ready for any emergency!



You can lay your patient on the stretcher, put him into the ambulance (tailgate opens) then speed off to hospital in this 80 m.p.h. Victor. Blue simulated flasher. 4-wheel suspension. Prestomatic steering. Seats. Steering wheel and uniformed driver.

MODEL 278. **6/11**

London Transport's ROUTEMASTER

Just like the real thing. Seats for 64 passengers. Staircase. Driver and clippie in full colour London Transport uniform. Bright Red bodywork. Start your own bus fleet today.

MODEL 289. LENGTH 4¾" **7/11**

Always something new from **DINKY TOYS**®

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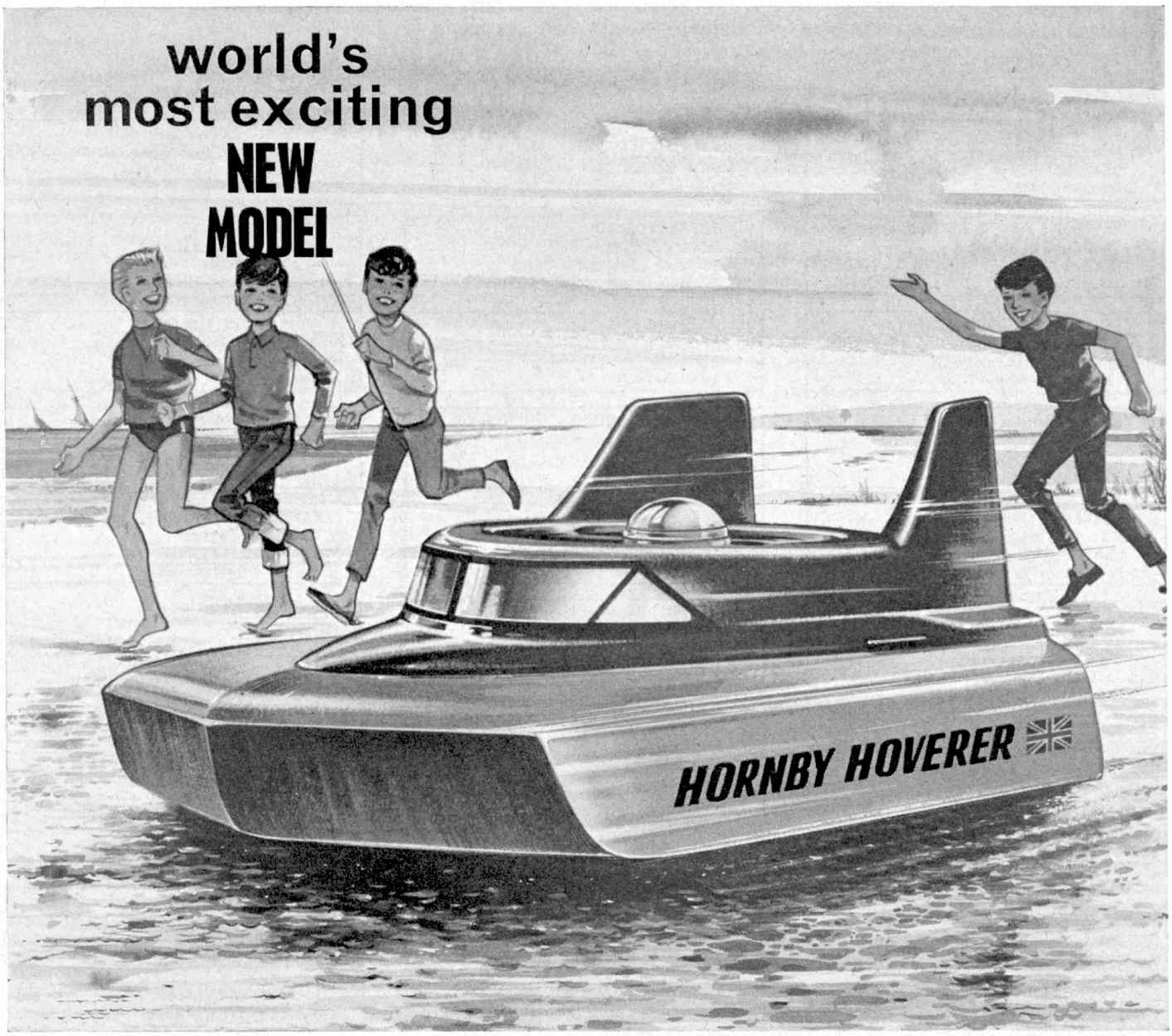
YOU CAN FLY THE FABULOUS NEW HORNBY HOVERER

Like to drive a Hover vehicle? You can with this exciting new model. It's just like the real thing. Glides *over* land and water on a cushion of air. Flies over pebbles. Steers. Travels at speed. Powered by the Cox Babe-Bee Glo-Plug engine. Fuel-proof, water-proof and strongly constructed from high density polystyrene. Own one of the world's most advanced forms of land and sea transport. One of the world's most exciting toys. Order your Hornby Hoverer today. **112/6**



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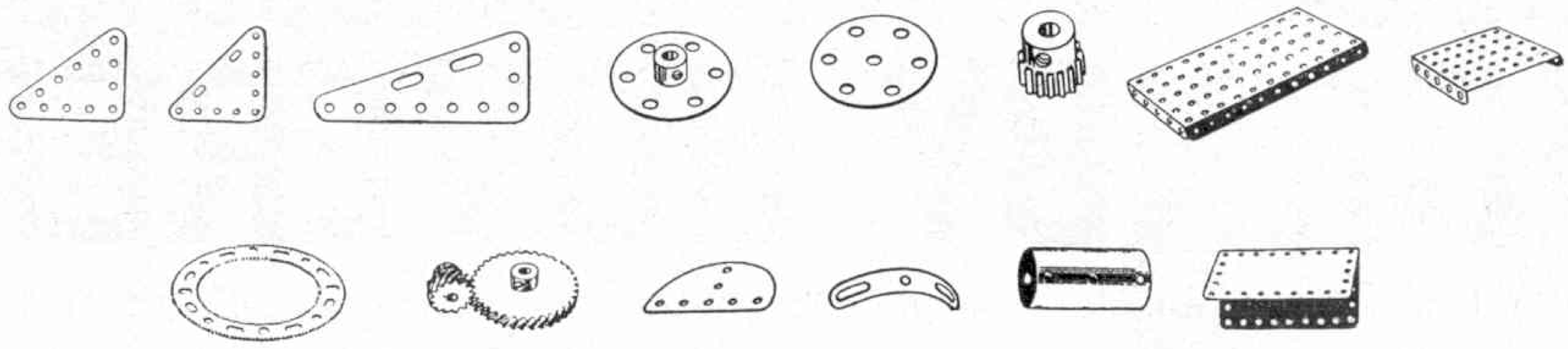

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Listed below are some of the dealers who sell Meccano accessories and spare parts. This is intended to aid enthusiasts—and there are many of them—who constantly require additional spare parts for their Sets. All dealers can, of course, order Meccano spare parts for their customers, but those listed here are among our spare part specialists.

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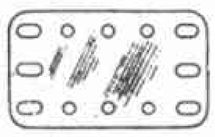

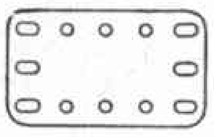

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Have you a problem—in science, history, literature or any other subject—to which you cannot find the answer?
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You may submit as many questions as you like. We will deal with as many as possible each issue.

Strange music

Q. *What can you tell us about 'musical glasses' or the 'glass organ'?—'Jack and Jill,' Southend-on-Sea.*

A. Musical glasses were first developed in England in the 18th century. Glasses of different sizes were filled with water and notes produced by stroking the rims with wet fingers. After hearing a recital in England in 1761, Benjamin Franklin invented an instrument in which the glasses were fixed to a rod operated by a pedal, which caused them to vibrate as they passed through a shallow water-trough. The *armonica*, as he called it, was popular in Europe and America during the next half-century, and Mozart composed music for it.
Interest in musical glasses has revived of recent years, a leading virtuoso being Bruno Hoffman, inventor of a more refined instrument known as the glass harp. It has a range of three and a half octaves.

Guide to aircraft

Q. *Is there a world directory giving particulars of all past and present aircraft, if possible with photographs? Robin Dormer, Geneva.*

A. *All the World's Aircraft*, edited by Fred T. Jane, gives complete details and illustrations of all types of aircraft —including space vehicles—built year by year. It was founded in 1909, and is the established directory. We know of no single volume covering all past and present aircraft; but Kenneth Munson's *Aircraft the World Over* (Ian Allan Publications) gives a comprehensive picture of all branches of aviation, with an eye to both past and future, and is very well illustrated.

The Earth's bulge

Q. *Is the Earth absolutely round?—A. V. Hill, Cirencester, Glos.*

A. The diameter of the Earth from pole to pole is 7,899 miles compared to 7,926 miles at the equator, so it is not truly spherical. It is believed that, since the interior is not solid, the centrifugal force of the Earth's rotation causes it to bulge slightly. One proof of the flattening at the poles is that a body weighs more there than at the equator.

Clocking dreams

Q. *How long does a dream last?—P.T.S., Ripon, Yorks.*

A. Most of us dream four or five times a night, and each dream lasts an average of 20 minutes, according to Chicago doctors who studied electrical recordings of eye movements made during sleep. They noticed that the subjects of their experiments made jerky, rapid eye movements lasting from five to 60 minutes several times during a night's sleep. By checking the sleepers' accounts of their dreams against these movements, they concluded that the events they dreamed lasted as long as they would in real life, and so exploded the notion that dreams 'pass in a flash.'

Paper-folding

Q. *Where can I find out all about making animals and other models by folding paper?—'Idle Jack,' Hastings.*

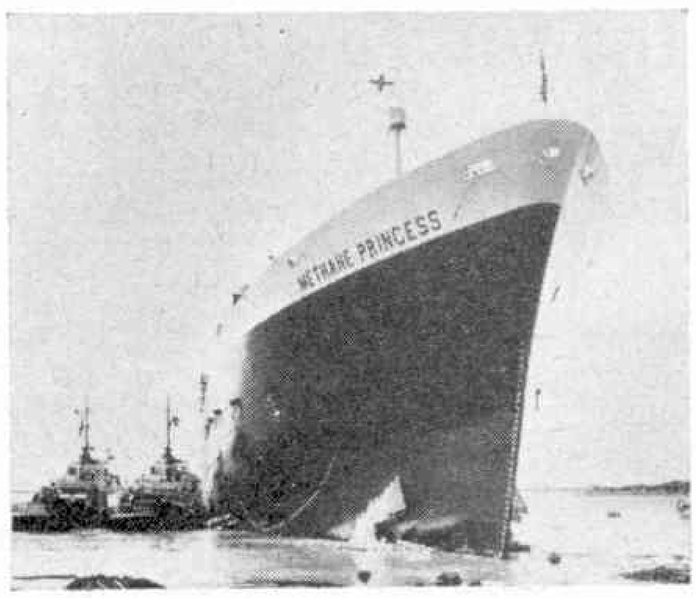
A. At least two recent books are devoted to the Japanese art of origami, or paper-folding, which is becoming popular here. In *Secrets of Origami Old and New* (Oldbourne Press), Robert Harbin of the Inner Magic Circle tells you how to make a large variety of models, from paper hats to human figures. Another delightful book on the subject is Samuel Randlett's *The Art of Origami*, published by Faber.

Desert gas

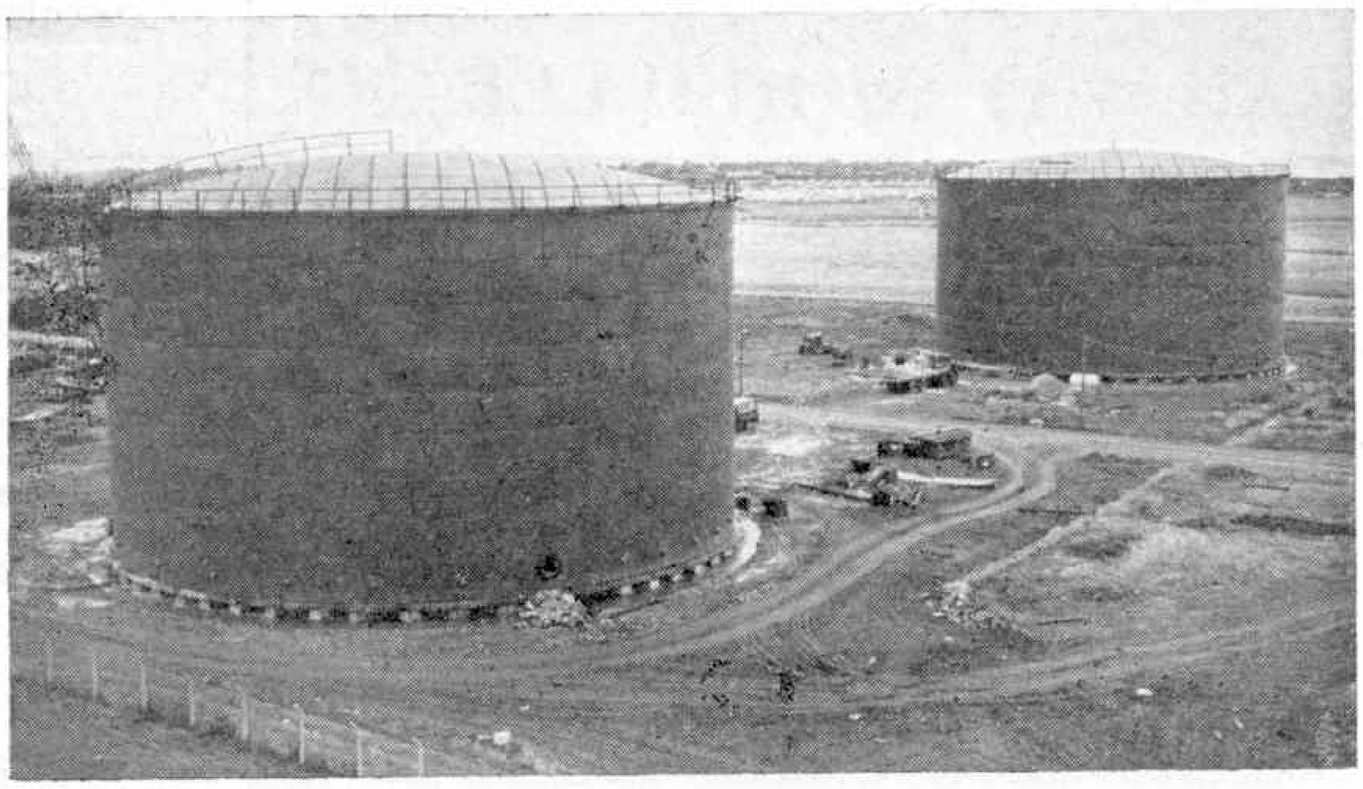
Q. *How can gas be brought from the Sahara for use in this country?—B.V.U., Sydenham.*

A. The gas is methane, or marsh-gas, of which enormous reserves lie between 3,000 and 6,000 ft below the surface of the North African desert. Plans to import this gas, which has been supplying Algerian needs for some years, are now being completed in Britain. After being purified, the natural gas is piped for 200 miles to Arzew, near Oran, on the Mediterranean coast. It will then be liquefied before being loaded on to two special tankers which will bring it to a terminal at Canvey Island, Essex. There it will be stored in tanks and pumped to regasification plants before it is distributed through steel mains to various parts of the country.

One of the tankers which will bring natural gas in liquefied form from North Africa to Great Britain.



Some of the tanks at Canvey Island which will store over 22,000 tons of liquid methane from the Sahara.



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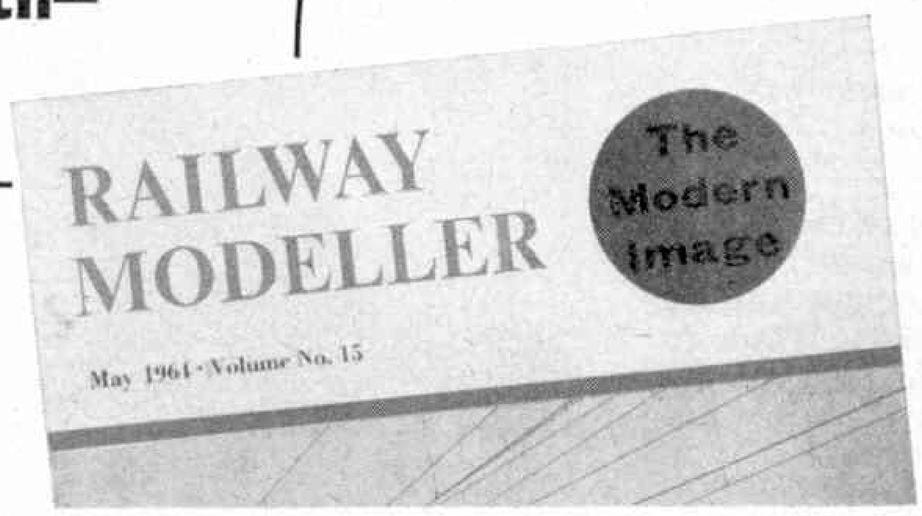

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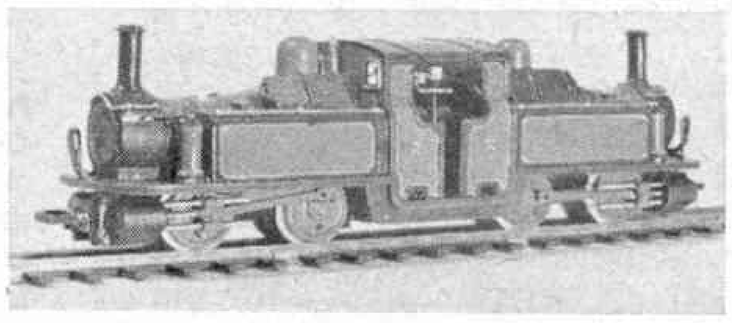

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by **F. E. Metcalfe**

STAMPS

Big business and the Stamp Bureau

THE HIGH prices stamps are making in some cases today—such as £25,000 for an envelope bearing a couple of copies—plus the increasing number of people interested in the hobby, seem to have brought the whole affair into the big business class. But it is the new issues which mostly attract the majority of collectors who have to work to a budget (sometimes a modest one) and the various postal administrations, knowing this, cater for buyers by having their own postal bureaux.

Of course, these bureaux do not only sell stamps; many of them publish bulletins which give all kinds of philatelic information. Our own Post Office has recently joined the throng, and apart from selling stamps (address Headquarters Building, GPO, London) they publish a monthly bulletin, which costs 5s a year. Recently, subscribers had a pleasant surprise, for with No. 3 there was a copy attached of the 1s 6d 'Compac' stamp marked CANCELLED. I have heard that copies are being sold at up to £5—I would not recommend one at that price, however—so subscribers have the cost of their subscriptions covered for some years with that little gift alone.

The largest stamp bureau in the world is that of the Crown Agents, at Millbank. They handle the sales of stamps of more than 60 countries and, in most cases, also arrange for the printing, etc. But I will refer to these again, later on. The biggest bureau, dealing with the stamps of its own country only, is that of the USA in Washington. Then we have the bureaux of Australia, in Melbourne, and of New Zealand, in Wellington, and others. Collectors can order direct from these, because they are inside the Commonwealth. But currency restrictions in some cases are such that it would not do to send postal orders to Washington. And, as a matter of fact, while you can send a bank draft to Australia, again you must not send postal orders.

Anyhow, what with postages and so forth if you are only wanting an odd set, it might pay you better to buy from a dealer. But the bulletins of Great Britain (5s a year) and Australia and New Zealand (free) are certainly worth going after, for they give, from time to time, most useful and interesting information which, as a collector of modern Commonwealth stamps, you really must have if you are going to keep up to date. If you fail to keep up to date, it will cost you more money to keep your collection that way.

And now I come to the most important stamp bureau in the world—as well as the most important bulletin for collectors of Commonwealth stamps—that of the Crown Agents, who have their towering offices within a stone's throw of the House of Commons. Of course, they handle a lot more than stamps. In fact, they would buy a steamship for one of the colonies, with less concern, and with a lot more skill, than we could buy a new tie. However, their Philatelic Bureau is a separate department and, as I have already stated, they deal with stamps from more than 60 countries. I use the word deal in its fullest sense for they undertake the job of getting the stamps designed, as well as printed. What a job! How do they manage it? Perhaps before I go any further I had better explain that they only sell stamps to dealers, so it is no use writing to them. However, through having supplies on hand, and giving a first-class service to dealers, the dealers are able to sell at prices much below those that many have to charge for foreign issues; less also than they would have to charge for Commonwealth stamps if they had to send abroad for them.

This is an example of what I mean. I am quoting from an invoice which a dealer received from one of the larger post offices in the Commonwealth: 'Stamps £31 5s, Postage £4, Commission, London High Commissioner 10s'. Now if the Crown Agents had been handling the stamps, in England, of that country, the dealer would have paid £31 5s plus a mere 2/6d for postage and service.

The net result of it all is that Commonwealth stamps enjoy so much popularity because they are readily obtainable by dealers in London, and are handled with such skill by a bureau which has been running since before we were born. Of course, their job is not just to sell the stamps for, as I have already stated, they have to deal with the design, printing and distribution. As a matter of fact, if they closed their bureau and dealers had to send out to all the countries in the Commonwealth for their supplies most of them would never bother. And the few dealers who would be handling would have to charge very much more above face value to make ends meet, so high are air mail charges, etc.

There is another advantage about the Crown Agents handling the stamps—all are perfectly packed, which means that the stamps you buy from your dealer are in tip-top condition. It always beats me why countries like New Zealand do not let the Crown Agents handle their stamps. Instead, they are printed in England, are sent out to New Zealand (with heavy transport charges to be paid) and have to come back, so incurring more heavy postal charges, Sales would undoubtedly increase if the Crown Agents were given the job.

I have mentioned the Crown Agents' Bulletin. Collectors can subscribe to this for 10s a year (address Millbank, London, S.W.1). To collectors of QE II stamps, it is simply priceless.

These four stamps are among the thousands handled by the Crown Agents at Millbank, London, without exception the largest stamp bureau in the world.

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• Wanted: Obsolete Aeroplanes, Dinkie or similar, not plastic. List and prices, please. T. F. M. Pryor, Lannock Manor, Hitchin, Herts.

• Any Meccano Instructions Manuals/Leaflets up to 1958. Particulars and price to: Brown, 55 Chatsworth Street, off New Hall Lane, Preston.

• Wanted: Pre-war Dinky, Tootsie-Toy and Chad Valley Models. Your price paid if unbroken. Details to: K. Wootton, 30 Barchington Ave., Barton, Torquay, Devon.

• Electric Racing Car Set. Good condition. Kavanagh, Sycamore Cottage, Brinkley, Newmarket, Suffolk.

• Required: All pre-Leyland Atlanlean Buses. Would anyone with any of these buses please contact, good prices paid: Watkins, 8 Bronawelon Terrace, Soffryd, Crumlin, Mon.

• Super Model Instructions Leaflets wanted. Will pay your price for all wanted if complete. Write with details: Vivian, 120 Vaughan Road, Toronto 10, Canada.

• New collector seeks old Dinky cars, Catalogue Editions 1, up-to-date. Price, etc., to: A. Surtees, 36 Brookfield Crescent, West Denton, Newcastle-upon-Tyne 5.

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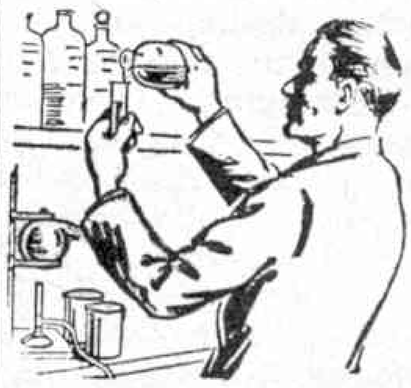

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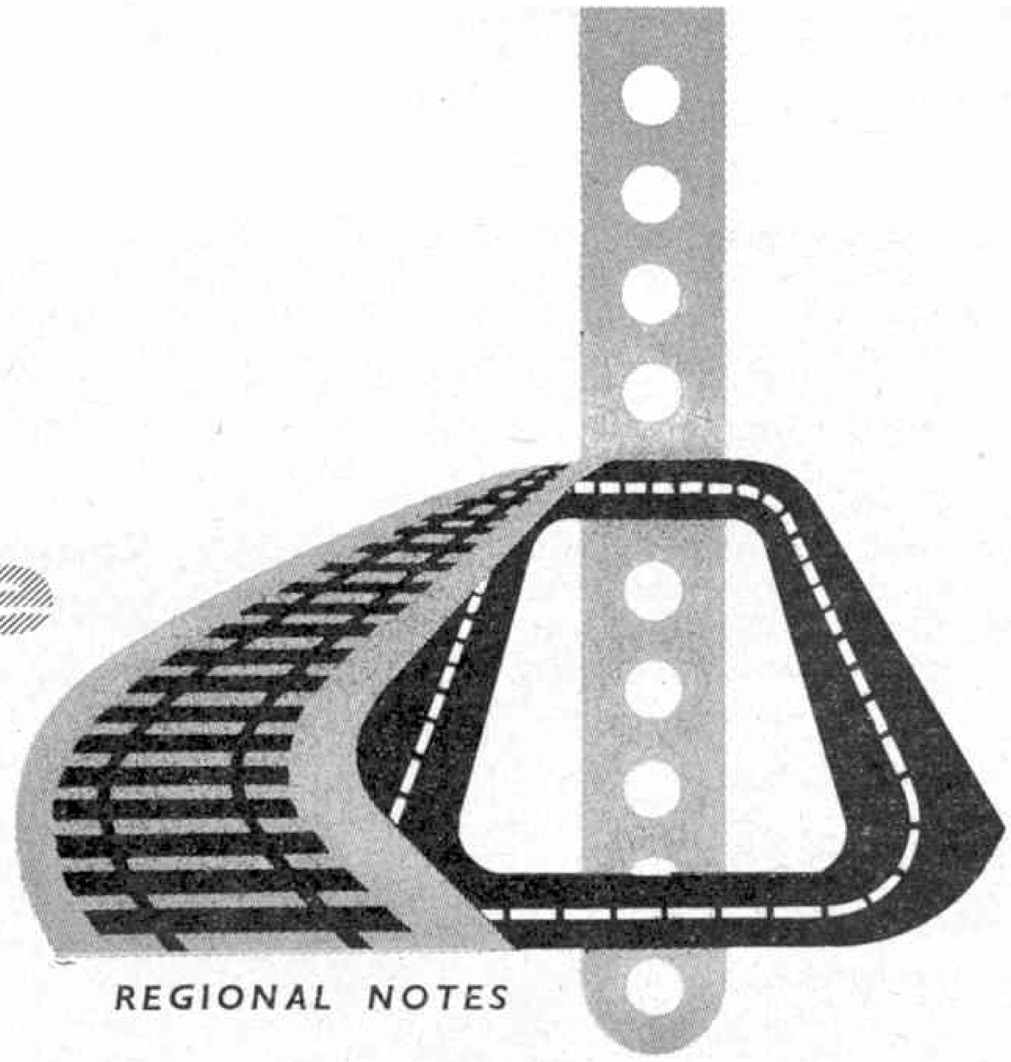

REGIONAL NOTES

East Ham & District M.R.C.

THE CLUB is still recording good attendances on club nights, even though long summer evenings act as a distraction to many enthusiasts. The club is at the moment adding the finishing touches to its 00 layout, in readiness for displaying the autumn exhibitions. The EM layout is now greatly enlarged owing to the additional space the club has been able to allocate to this project, and is nearing completion. On September 13, a visit will be made to Crewe Works and shed. Inquiries about this should be sent to the Secretary, Mr. G. R. Lloyd, of 32a Goldsmith Road, London, E.10.

Edinburgh & Lothian Miniature Railway Club

THE CLUB'S annual exhibition will coincide with the Edinburgh International Festival to be held in the clubroom, Advocates Close (opposite St. Giles), High Street, Edinburgh, on Fridays, August 14, 21, 28 and September 4; Saturdays, August 15, 22, 29 and September 5, and Sundays, August 16 23, 30 and September 6. Times of opening are Fridays 6.30-9 p.m., Saturdays 2.30 p.m., and admission charges are 1/- for adults and sixpence for children. The club's 0 gauge, 00 gauge and HO continental layout will be on show, together with exhibits by the Historical Model Railway Society, and the Scottish Group of the Talyllyn Railway Preservation Society. Further particulars and details of membership can be obtained from Mr. R. K. Kerr, of 43 Clark Road, Edinburgh, 5.

Leyton Model Railway Club

As A result of the recent exhibition at Chingford the club's membership has grown considerably. The layout is being inspected for faults, and these will be dealt with before further extensions are made. The library now contains more than 400 items of railway and model railway interest. Visitors are always welcome, and should contact the secretary, Mr. K. Tait, of 49 Park Grove Road, Leytonstone, London, E.11, if interested in attending. Club nights are Tuesdays and Fridays at 7 p.m. The club meets at the Essex County Cricket Ground, Crawley Road, Leyton, E.10.

2 mm Association

AT THIS association's annual general meeting, the chairman, Major Stone, accepted the post of vice-president, and Mr. T. Clarke was elected as chairman in his place. Future meetings will be arranged at Keen House, Calshot Street, London, N.W.1. The meetings will be devoted to the construction of a 2 mm. test track and to exhibiting models. All who are interested in 2 mm. scale modelling, are cordially invited to pay a visit to any advertised meeting. Further information about the Association may be had from the Honorary Secretary, Mr. J. D. Willis, of 69 Hawkhurst Way, West Wickham, Kent.

The Northern Railfans' Club

VISITS ORGANISED by the club for August and September are as follows: August 9, The Liverpool and Chester area Motive Power Depots, leaving from Manchester; August 15, The Leeds and Wakefield area (from Leeds); August 30, Swindon Works, and also Gloucester and Worcester (from Crewe); September 6, The Edinburgh and Fifeshire area Motive Power Depots (from Manchester); September 13, Crewe Works (from Crewe); September 26, West Riding Motive Power Depot (from Crewe). Inquiries should be sent to Mr. C. B. Brown (X) of 17 Glen View Street, Cornholme, Todmorden, Lancs.

Electric Transport Development Society

IN RESPONSE to many suggestions, the London and Home Counties' Electric Traction Society has been re-named the Electric Transport Development Society. The scope of the society has been extended to cover national activities and to advocate and promote modern electric transport, particularly electric railways. The enlarged society will continue its former policy of extending knowledge of the benefits of electric transport, advocating extensions to interesting networks, and promoting electrification of appropriate steam and diesel-worked railways. It will, in addition, co-operate with overseas bodies in the recording of relevant information. New members are welcome. Inquiries should be addressed to Mr. E. Relton, of 2 Chesterfield Road, London, E.10. Subscription rates are 15/- for a year, plus 5/- admission fee; £10 for Corporate membership and 7/6d for Junior membership (under 18).

Chowdene Meccano Boys' Club

FORMED NEARLY 14 years ago, the club is now registered with the local authority as a boys' club, and added interests gained by this include inter-club matches of five-a-side football, table tennis, etc. The club has its own internal championships and the 70-odd members compete each year for a shield on which the winner's name is subsequently engraved, the trophy being kept for one year. The club has its own 1947 Austin 10 and the van is kept on the road by the sale of sticks, two shops being kept supplied. The club's internal shop is flourishing. Chips are prepared on Fridays by the members on duty, and parents supervise the cooking. A coffee bar, with record player, keeps the Pop crowd happy. During the summer several members

have enjoyed camping in the club's spacious grounds and have thoroughly enjoyed themselves.

There is a very successful model room run by two seniors, where there is a woodworking lathe, a fretwork machine and all the usual tools. It keeps the juniors occupied turning out useful items for sale at coffee evenings. At the time of this report club members were planning a continental trip of a fortnight's duration. Leader: Mr. P. H. Hall, 'Glenbrooke', Chowdene Bank, Gateshead, 9.

Maylands Meccano and Hobbies Club

IN MAY, the Parents' Committee ran a Mothers' Day Stall in the Maylands shopping area, and a jumble sale was also held on the 28th of the month. Some of the models recently completed include a lifting shovel by Malcolm Criddle, and a gantry crane by Graeme Criddle. The old Super Model steam excavator has recently been built by Chris Ridley, using an electric motor in place of the Meccano steam engine. At present, there are three models of the Shire class locomotive being built by Dean Parham, John Pirozek and Michael Thair. The Baltic tank locomotive is being built by John Carter. A new member, Brian Mofflin, has made his mark already with the construction of a Fretsaw and the new Meccanograph. Secretary: Trevor Criddle, 17 Kenilworth Street, Maylands.

North End (Portsmouth) Meccano Club

OWING TO the long illness of the club's former secretary, Mr. A. J. Nicholson, the former leader, Mr. R. G. Enfield, has taken his place. Mr. P. G. Williams becomes leader with Mr. J. R. Kinchen (Jnr.) as Chief Member and Dinky Toys Supervisor. The club is open on Wednesdays (7.30-9.30 p.m.) and Saturdays (11.30 a.m.-1.30 p.m.) and is at the corner of Stubbington Avenue and Beresford Road. All interested are invited to write to Mr. J. R. Kinchen (Jnr.), 79 Fortunes Way, Bedhampton, Havant, Hants, enclosing a stamped addressed envelope. Old members are also welcome.

Gindiri Secondary School MC

ALTHOUGH MEMBERS are divided into groups this does not mean that individual members of a group may have nothing to do during model-building. Each member of a group is assigned to a section of a model and when the individual parts are finished they are connected together to form the complete model. A lifting bridge, a motorcycle, a modern car, a freight plane, a derrick crane and a modern bus are among the latest models to be completed. Attendances normally average 100 per cent. Leader: Mr. P. F. Bradford, Gindiri Secondary School, Northern Nigeria. Secretary: Daniel Babalola.

Gindiri Secondary School HRC

WITH THE help of the leader and the master in charge, the club is running very smoothly. Quite early in the year the members started work on new model locomotives and the construction of new track. All members take part in this work, and weekly duties include any necessary repairs to track and rolling stock, etc. As in the case of the school's Meccano Club, there has been an average attendance at meetings of 100 per cent. Leader: Mr. M. Cottam, Gindiri Secondary School, Northern Nigeria. Secretary: Daniel Babalola.

Loco. Preservation Society

A FUND has been formed for the purchase and preservation of ex-G.W.R. 0-4-OST 1338. Mr. R. Smallman, manager of 'The Yieldingtree Railway Museum', located at Bleadon and Uphill Station, Somerset, has kindly agreed to donate a concrete plinth, and give a 'home' to No. 1338 at his museum. The sum of £500 is required to purchase the locomotive and remove it to its new home. The trustee states that all who donate more than 10/- will be given a share in the ownership of 1338. Donations should be sent to Mr. B. K. Kinsey, of 15 Brookland Road, Weston-super-Mare. Mr. Kinsey will also be pleased to supply photographs at 1/- each, all profits going to the fund.

Birmingham Locomotive Club

THE THREE visits scheduled to take place during August and September, begin on August 30, when the club will visit Harwich Works, Wigan, Warrington, Lostock Hall, Lower Darwen and Bolton. This will be followed on September 20, when a visit will be made to Swindon Works shed and museum, and Bristol. The last visit to take place during September, will be an industrial visit. Further information about this and other club activities may be obtained from the Hon. Secretary, Mr. E. S. Tonks of 87 Sunnymead Road, South Yardley, Birmingham 26.

The Railway Correspondence & Travel Society

THIS SOCIETY are negotiating with the North Eastern Region of British Railways for a tour from Bradford (Exchange) on Saturday, September 5. It was hoped to visit a number of lines in the Bradford/Huddersfield/Barnsley area, which are otherwise closed to passenger traffic. It is thought that class 3F L.M.R. tank locomotives and a 'Crab' 2-6-0 will be used for part of the trip. Further details of fares and timings may be obtained from Mr. Bottomley of 18 Greencliffe Avenue, Baildon, Yorks, (s.a.e. please).

The Fire Brigade Society

FORMED TO cater for the interest in fire brigades, fire appliances and fire fighting generally, this Society now publishes a news sheet which appears every two months. This contains fire fighting news and other items of interest to enthusiasts. A register is kept of all known appliances and information is always available to members. The register is brought up to date by information received from members. An additional register is also operated to help members acquire photographs of appliances or stations that they may be interested. Visits to fire stations are often arranged and film and slide shows are organised at frequent intervals. The membership fee of the fire brigade society is five shillings (2s 6d under 16 years of age). Any person interested in joining the Society should write to Mr. R. Bonner of 20 Chipping St., Longsight, Manchester 12.

Merseyside Model Railway Society

THE CLUBROOMS at 102 Chester Street, Birkenhead, are open every Tuesday and Friday and prospective members are cordially invited to attend. The membership secretary will be pleased to answer any enquiries about the Society and applicants should write to Mr. E. R. Foulkes of 99 Blythswood Street, Liverpool 17.

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