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THE ORIGINAL
'DO-IT-YOURSELF'
MAGAZINE

HOBBIES *weekly*

FOR ALL
HOME CRAFTSMEN

Also in this issue:

NOVELTIES
FOR EASTER

COLLECTORS' CLUB:
NEW STAMPS

TABLE MATS
IN FABRIC

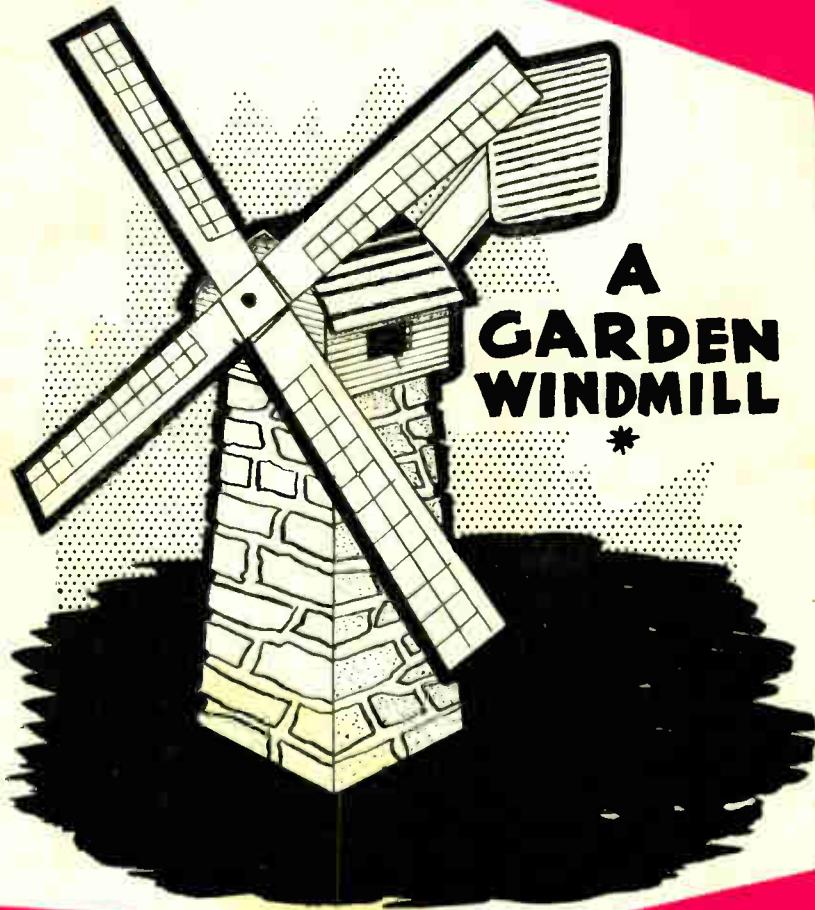
DISC BREAK:
DOROTHY PROVINE

POTTING PLANTS
IN APRIL

TWO FULL-SIZE
MODEL PLANS

MAKE A RADIO
WAVETRAP

A GARDEN WINDMILL *



Up-to-the-minute ideas

Practical designs

Pleasing and profitable things to make

5^d



NOTE TO
CORRESPONDENTS
★ All correspondence on any subject covered in this magazine must be addressed to: The Editor, Hobbies Weekly, Dereham, Norfolk. If a reply is required, queries should be accompanied by a stamped addressed envelope and reply coupon inside back cover.

SPANNING the entrance to Dokai Bay in North Kyushu and linking the two cities of Wakamatsu and Tobata, the Wakato Suspension Bridge was completed at a cost of some 5,100,000,000 yen in four years and five months from the inception of its work in April 1958. With its two-hinged stiffening trusses, its overall length of 2,068 metres, and its central suspended length

NEW STAMPS FROM JAPAN

of 680 metres, this bridge is the biggest of the type in the Orient, and prides itself on the latest techniques that were employed in its construction. This special stamp (left) was issued to commemorate the opening of the bridge.

To mark the International Letter Writing Week beginning 7th October 1962, and with a view to introducing Japanese woodcut art abroad, a special 40 yen postage stamp was issued, having for its design the print 'Nihonbashi' from the 'Fifty-three Stages of Tokaido' series by Hiroshige Ando (1797-1858).



On the 15th of November, which is called *Shichigosan* (literally meaning seven-five-three), Japanese boys of five years, and girls of three and seven years of age are taken to shrines to pray for their unobstructed growth. Observance of this festival is especially in evidence in the Kanto, where, on this day, may be seen many parents with their festively-dressed children on their way to or from their shrines. As the third of the Festival Stamp Series, a 10 yen postage stamp (right) depicting children of *Shichigosan* was issued last November.



This enlarged illustration shows the second stamp in the American 'Fine Arts' series which is of Winslow Homer's great seascape 'Breezing Up'. It is claimed to be a dramatic stride forward in multi-colour stamp production. The 4-cent stamp, which depicts a catboat heading homeward under leaden skies, was issued on 15th December.

A NEW SET OF FOUR FROM TANGANYIKA

ON 9th December 1962, Tanganyika became a Republic within the Commonwealth. To commemorate the occasion this special set of four postage stamps was issued. The values, colours, and design details are as follows:

30 cent green. Self-help scheme being inaugurated by Dr Julius Nyerere.

50 cent green, yellow, red, blue, and black. Hoisting of the flag, and emblematical torch on Mt. Kilimanjaro on Independence Day, December 1961.

Sh. 1/30 red, green, black, blue, sepia, silver, and gold. The Presidential device consisting of the shield which forms part of the National Coat of Arms flanked by elephant tusks.

Sh. 2/50 blue, black, and red. The Independence Monument unveiled at Mnazi Moja on Independence Day, 9th December 1961.



TABLE MATS IN FABRIC

WOVEN fabrics, such as Danish Loopweave cotton, or linens are ideal for making attractive place mats for the dining table and their interesting patterns help the embroiderer.

In the illustrations you will see that the material has a check design in the weave with both large and small squares. If you obtain such material and examine carefully you will discover that the woven designs suggests several months of embroidery to make really pleasing mats or runners.

For a place mat we require a piece of material measuring 15 in. by 9 in. and this is cut into a perfect oblong along the lines of the woven design. After cutting out remove the weft, or warp, at the ends and sides to make the fringe. It is important to make the fringe at this stage otherwise you would experience some difficulty in maintaining a perfectly straight trim.

In both specimens shown the white squares woven in the material dictated the embroidery scheme and in Fig. 1A we show how a simple zig-zag design has been used. The material itself is pink while white and brown silks have been used.

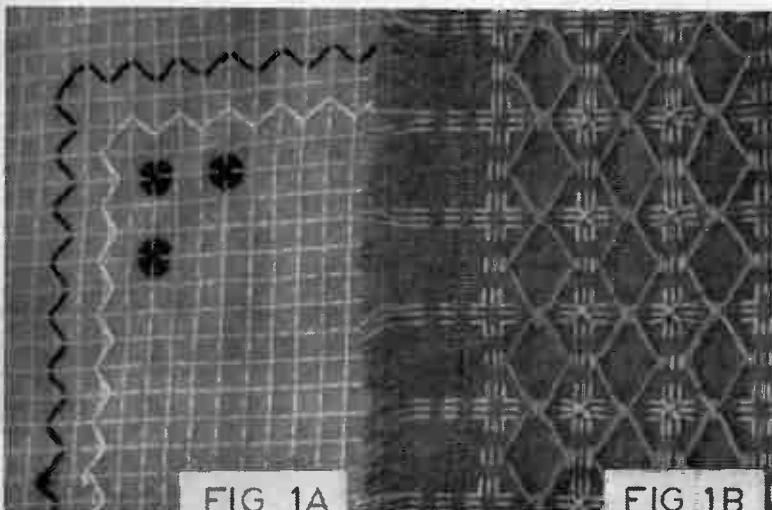


FIG 1A

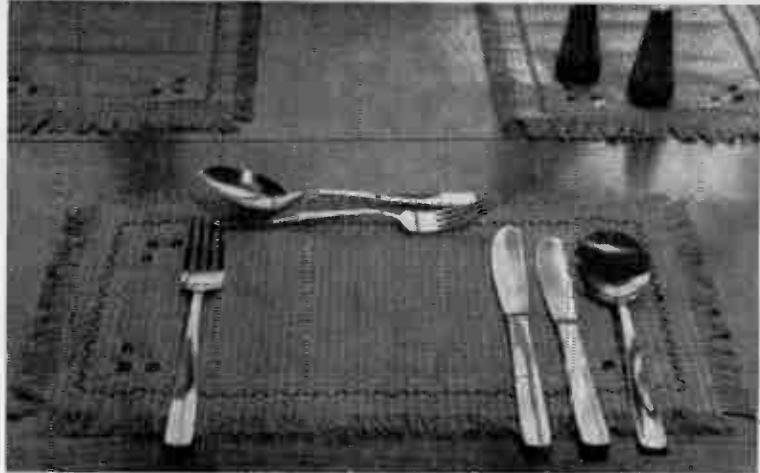


FIG 1B

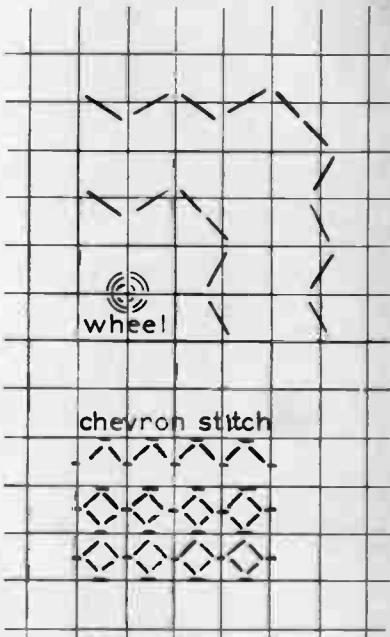
In this instance the embroidery is achieved by means of surface darning. In other words the thread only passes to the back of the material at the start and end of each stitch. We should also mention that when working on this type of material it is advisable to use tapestry needles which do not have sharp points and will not split the threads of the fabric.

The other small ornaments are 'woven wheels' made by interlacing the embroidery silk through the loose threads of the material. Each circle consists of four rings of threads starting from the centre and working outwards.

The second mat (Fig. 1B) is composed of blue linen, the white squares being rather larger and broken in places. Here we used the chevron stitch, again determined by the size of the squares. Crewel

needles were used in this instance with three shades of gold embroidery silk.

The diagram shows full details of the stitches used for both mats and to make a zig-zag design fit such a panel we must



warn you to count the squares in both directions. A little thought will reveal that it is essential to have an odd number of squares at both the ends and along the sides. Otherwise these effective designs are quite easy to work.

At least four mats are advisable for a table set and if desired a larger runner to match may be prepared for the centre of the table.

(A.B.)

Illustrated on front page

A GARDEN WINDMILL

A MODEL windmill, with its busily-turning sails, makes a pleasing garden feature which is fascinating to watch. The one shown here is a composite structure of stone and wood, but an all-wood model is described later in this article.

Fig. 1 shows the method of construction of the stone tower on which the head of the windmill is erected. First, a steel rod or tube, such as a piece of old electric conduit rod, is hammered into the ground on the chosen site, until it is 28 in. high. The stones for the tower can be of any variety that is not too hard, and which can be broken into pieces 2-3 in. thick and up to 4 in. long. Flat stones are easiest to work with, and usually give the best results.

place. The cement used must be fairly stiff to prevent it from running down the face of the stone and marking it. Continue building up the walls in this way. To check that the walls are tapering evenly to a width of 9 in. at the top, a 9 in. square of wood is fitted over the central rod, 24 in. above the ground. As the work proceeds, a piece of wood, held against the wood square and the edge of the base, will provide an accurate straight-edge for building the stonework.

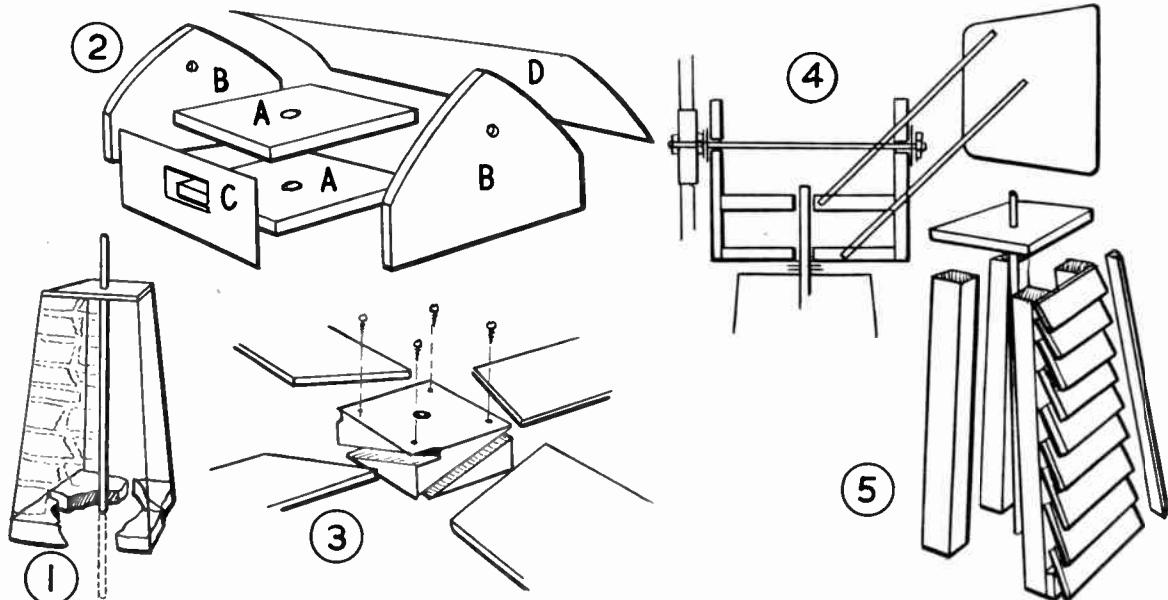
When the tower is 12 in. high, the work should be left for 24 hours. After this time, the inside of the tower is filled with rubble and broken chips of stone. Cement is poured in to cover this, then the tower is built up to its final height of 24 in., the interior filled in as before, and

for the sails. The two side sections C, are of plywood or hardboard, and are 3 in. high and 13½ in. long, with a 2 in. by 1 in. window opening cut in each.

The two roof sections D, are 13½ in. by 9 in., and are made of plywood or hardboard. The parts are screwed together, with the exception of the roof sections, which are not added till later. Using several washers, the wooden top section should be made to pivot easily on the cemented head of the masonry tower.

Making the sails

The sails are made from four 21 in. by 3 in. pieces of outdoor grade plywood or hardboard. A 3 in. by 3 in. block of 1 in. thick wood is drilled to take a suitable spindle, and a ½ in. deep groove is sawn



When the stones have been broken to the desired sizes, a 12 in. square is marked out at the foot of the rod, and dug out to a depth of 2 in. The first layer of stones is then laid in place along the edges of the excavated base, the stones being about ½ in. apart. A mortar, made from a 2:1 sand and cement mixture, is used to fill in the spaces between them, and to spread a ½ in. thick layer over them, using an old knife blade as a trowel.

The next row of stones is built up by 'buttering' each stone with a layer of cement at least ½ in. thick, and laying it in

cemented over.

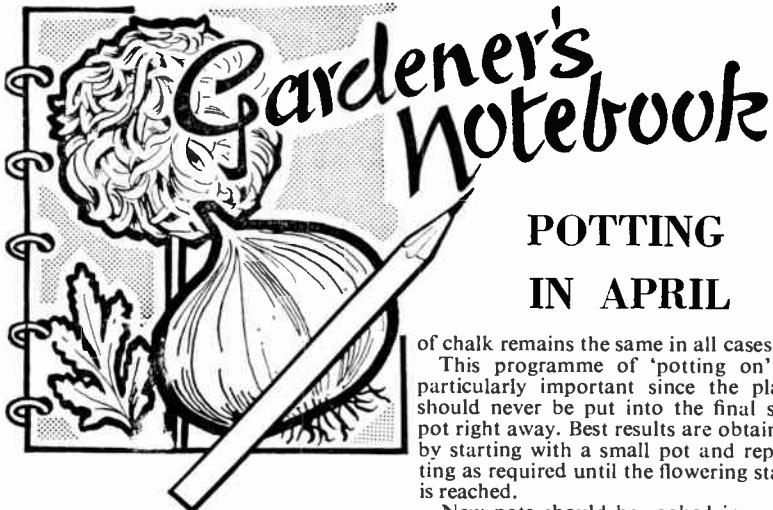
The head of the windmill is made as shown in Fig. 2. The two platforms A, are 12 in. squares of ½ in. thick wood, drilled to take the steel rod. The front and back sections B, are also ½ in. thick. They are 12 in. wide and 9 in. high at the peak of the roof, their vertical side sections being 3 in. high. If the line from the side wall to the peak of the roof is made to curve slightly, as shown, the effect is more pleasing than a straight line.

A hole is drilled in these sections, 3 in. down from the top, to take the spindle

in each face, running diagonally from corner to corner. Fig. 3. These grooves take the sails, which are glued in place and secured by screws.

Test the sail assembly for balance before fitting to the windmill, and trim any heavy sails, if necessary, at the tip. Properly made, the sails will revolve in a 5 m.p.h. breeze, or at walking pace on a still day. The sails revolve on a 16 in. long spindle, threaded at both ends, and running from front to back of the windmill. Fig. 4. The sail block is secured to

• **Continued on page 425**



Gardener's Notebook

POTTING IN APRIL

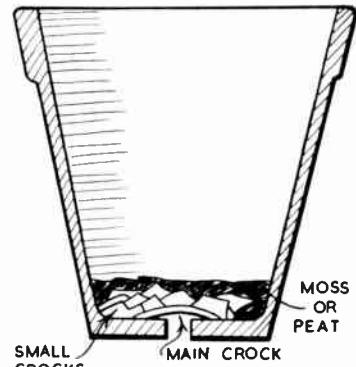
of chalk remains the same in all cases.

This programme of 'potting on' is particularly important since the plant should never be put into the final size pot right away. Best results are obtained by starting with a small pot and repotting as required until the flowering stage is reached.

New pots should be soaked in water for an hour or two before using, and old pots scrubbed in hot water to remove dirt and green slime.

Since drainage is of paramount importance it is essential to see that the drainage hole is not blocked. Place a piece of broken pot, commonly called a crock, over the hole and a few more smaller broken pieces over this as shown in the illustration. Cover with a thin layer of moss or peat. Small stones are a good substitute for small crocks.

Put a little soil into the pot and place the plant in position. Do not bury too deeply, but gauge the depth from the previous position. Always leave enough room in the top of the pot for watering. Firm the soil with the fingers — not thumbs — in the case of small pots, and with a thin strip of wood for larger pots. The soil should be gently firmed — not



rammed down solid. Some plants need to be firmer than others, but this is a matter of experience.

If the compost is reasonably moist the pots are set aside and watered next day. Pay particular attention to watering for a week or two, taking care not to over water because the roots will not take up so much moisture at first. (M.h.)

● Continued from page 424

A GARDEN WINDMILL

the threaded spindle with nuts and washers, and another nut with washers makes the rod fast at the rear of the mill. Note the spacing washers between the nuts and the walls of the mill.

To help keep the mill facing into the wind, a large fin is attached to the rear. This fin is cut as shown in Fig. 4 from a 9 in. wide by 12 in. piece of plywood or tinplate. Two holes are drilled at an angle in the rear wall to take the 18 in. lengths of $\frac{1}{2}$ in. diameter dowelling to which the fin is attached. These holes should be drilled slightly off-centre, to clear the spindle of the sails. The dowel rods are glued in place, and the fin attached, preferably with small nuts and bolts passed through holes drilled in the rod and fin.

The roof sections are now added, using screws to hold them against the rounded edges of the wall sections.

Wood version

As an alternative to using stone, a wooden tower can be made as shown in

Fig. 5. The steel rod is fixed in the ground as before, but four sections of 2 in. by 2 in. wood are driven into the ground to frame the tower. They are 24 in. high, 12 in. wide at the base and 9 in. at the top. A 9 in. square of wood is screwed to the top of them, and the slatted sides are made from lengths of 2 in. by $\frac{1}{2}$ in. wood, overlapping each other by 1 in. Each side is started off with a 1 in. wide strip at the bottom, and finished off in the same way at the top. Lengths of quadrant beading can be added at the corners if desired.

The woodwork looks best in pale grey or white, with brown lining on the sails to suggest framework. Horizontal lines across the woodwork gives an attractive weatherboarding finish, and the roof looks well in terra cotta or a brown shade.

The moving parts should be kept well greased, so that the mill responds to the slightest breeze. In difficult situations, near wind-obstructing walls and sheds, the fin may have to be enlarged slightly for greater efficiency. (A.L.)

NOVELTIES FOR EASTER

CHOCOLATE and sugared eggs were only introduced in the last century, the original Easter custom being to exchange bird's eggs. In the process of time we find that eggs have been decorated and coloured with natural dyes. And, of course, it is the hen's egg which is used for this purpose.

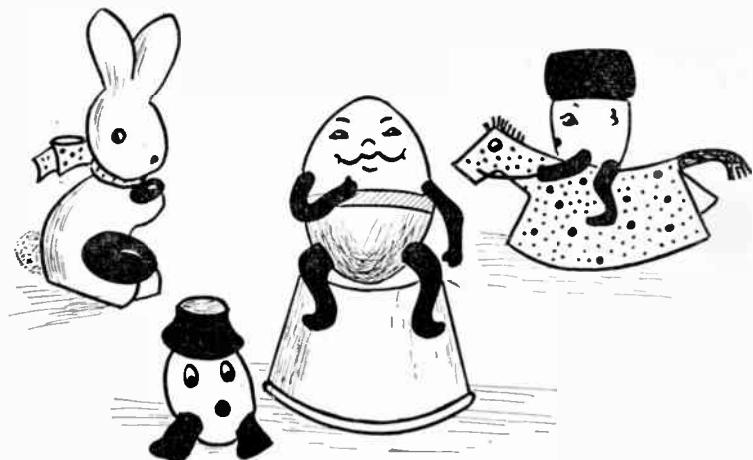
So why not decorate the table at Easter, presenting eggs to the family in some attractive holders? These can be

By H. Mann

quickly made for chocolate eggs from cardboard and decorated with paint or coloured paper. Real eggs which have been hard-boiled may have faces painted on with ink, lipstick or water colours, while legs and hats may be made from Plasticine. When the face has been painted you only need two small pieces of Plasticine shaped into short legs to make the egg stand upright on the table. Shape a hat from the same material — or a disc of cardboard may be cut out, with a hole in the centre for fitting as a hat.

Humpty Dumpty

Larger chocolate eggs make a suitable base for featuring Humpty Dumpty. Take a large chocolate egg, covering the upper half with white crepe paper, and the lower half with red paper. The arms, legs, and belt may be cut from black paper and stuck in position while the facial details may be painted in with



water colours or fashioned with scraps of coloured paper.

Having prepared our hero, he can be set on an upturned plant pot, which, itself, has been covered with crepe paper.

So now for the King's Horses! These are easily made from a pair of plain postcards. Mark a card into quarters as shown at the top of the diagram, and sketch the outline. Use scraps of crepe paper for the mane and tail. Now join the two pieces of card which have been cut to shape by means of adhesive or Sellotape, sticking the mane and tail between. Leave the centre of the body open to enable you to insert the rider — an egg — who is to represent one of the King's Men.

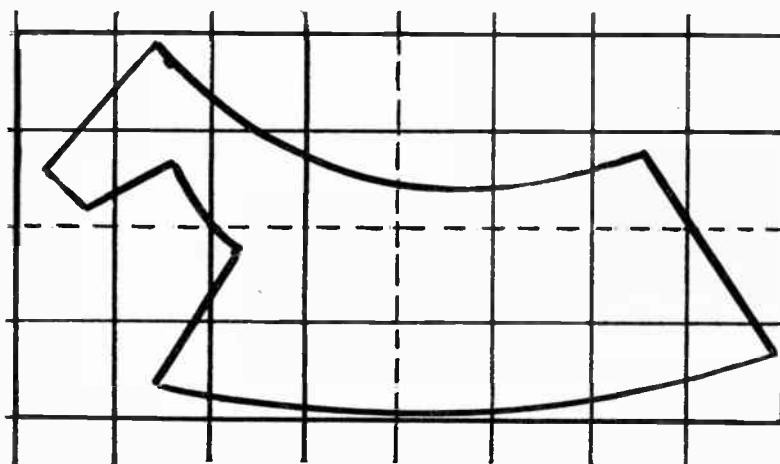
The rider should be a small chocolate egg treated like Humpty Dumpty, but to make a good job, thread a little cord through the hands, and attach to the head for reins. We leave the decoration of the horses to individual taste, but you will see that we have a dappled one.

Rabbits

Rabbits may also come into this scheme, and these may be made from thin card. Cut two pieces of card, after marking out, from the diagram and a piece for the ears. Stick the two main pieces together at the head, bending the ears and the rest of the body outwards. Fold the ears at the centre, and glue inside the ears on the main body. You may use a tuft of cotton wool for the tail, and tie a ribbon round the neck after painting in the eyes. In this instance you may place eggs on both the front and rear legs. The squares in the diagram may be regarded as of any dimension, so that you may adjust the size of your models.

Real eggs

Real eggs may be decorated after they have been hard-boiled, and you may either paint designs, or names, direct on the shells with inks or water colours or try the traditional method of dyeing. A design is blocked off by applying molten wax before immersing in a dye. The wax must first be allowed to dry, and the portions lying underneath will not be affected by the dye, remaining the natural colour of the egg. After the dye has dried the wax is removed by gentle heat. Beeswax is used for this purpose,



This is the shape of the horse

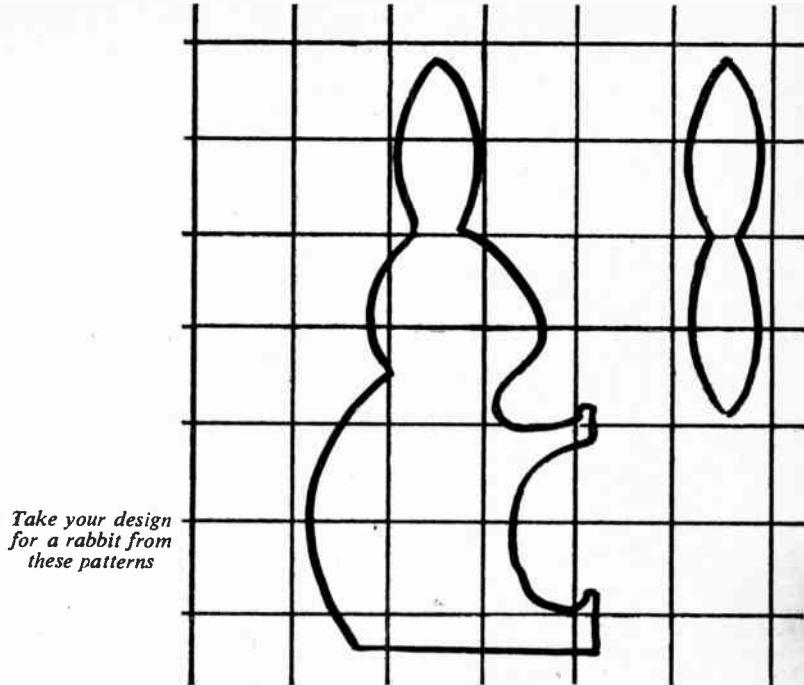
and can be applied with a steel pen or pinhead. Intricate designs can be made in multi-colourings, but this requires re-waxing, and separate immersions.

You may also use tight rubber bands, or strips of Sellotape, and we would mention that cake icing dyes provide a comprehensive range of colours.

Paper cut-outs

There are many other simple methods of decorating hard boiled eggs without using dyes. Among these we would mention gummed cut-out shapes in coloured paper, which may be stuck on at random. A ribbon tied round with a nice bow looks well, or you may wrap eggs in coloured cellophane. The latter may be bunched at the top, and fastened with gay ribbon.

All the methods described will enable you to prepare some attractive novelties for the Easter table. If you can keep your intentions secret so much the better, for the family will then enjoy a very pleasant surprise.



*Take your design
for a rabbit from
these patterns*

A 'GROWLER' TRUMPET

INSTRUMENTS of musical torture have a particular fascination for boys, and such a toy is the 'Goblin Trumpet,' or 'Growler,' which will provide a half hour of instructive, if nerve-wracking, amusement. To make the device you will need some stiff paper and few strips of cellulose tape.

By A. E. Ward

Cut out a six inch square of paper and prepare one edge, as illustrated in (A) so that it will possess a little triangle flap held to the rest of the material by a hinge no more than $\frac{1}{2}$ in. wide. Roll this paper round a pencil or dowel rod to form a tube which will be about $\frac{1}{2}$ in. in diameter and one end of which will be covered by the triangular flap. Prevent the tube from unrolling by binding it with strips of the sticky tape. See diagram (B).

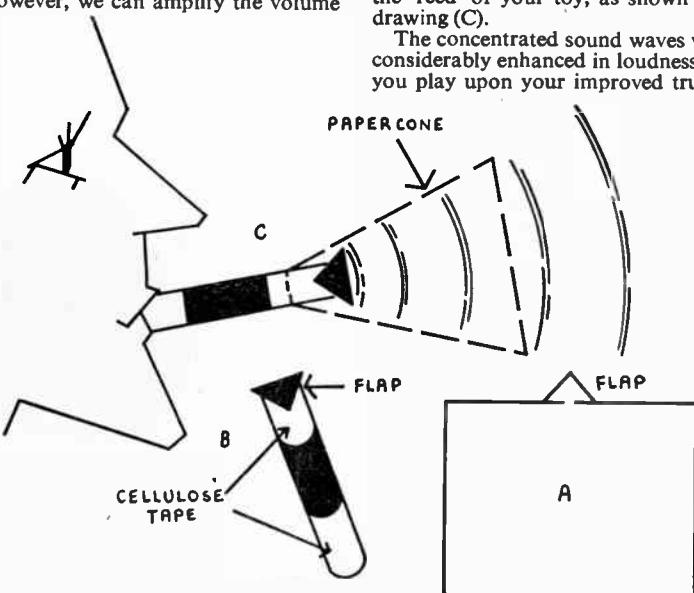
Now, when you place the uncovered end of the tube between your lips and suck gently, you will cause a deep and curious noise to be produced as the paper flap vibrates and creates waves of sound. A longer instrument will produce a still more deeply pitched note. The

simplicity of the 'Goblin Trumpet' and its rapidity of construction and cheapness will endear it to all youngsters.

However, we can amplify the volume

of the sound produced by the instrument and in doing so illustrate the purpose of the 'bell' or 'flare' on the ends of more euphonious trumpets, and trombones. Merely form a paper cone, secure its shape with cellulose tape, trim its precise form with your scissors, and slip it over the 'reed' of your toy, as shown in the drawing (C).

The concentrated sound waves will be considerably enhanced in loudness when you play upon your improved trumpet.

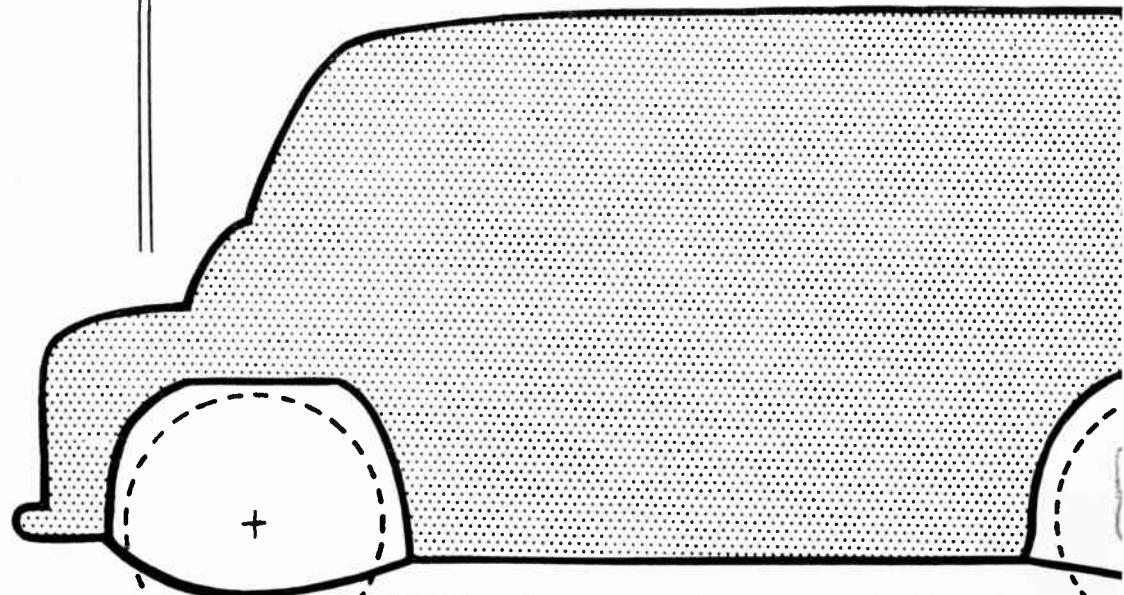
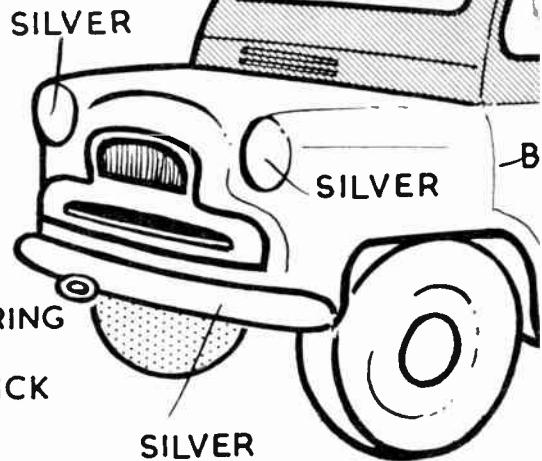


A TOY PULL-ALONG BEDFORD VAN

8 INS. LONG

SCREWEYE
TO TAKE STRING

ALL WOOD $\frac{1}{2}$ IN. THICK



PIECES 1 CUT TWO TO SHADED AREA
PIECES 2 CUT FIVE TO OUTLINE ONLY

FORCE WHEEL ON TO HEAD
OF NAIL



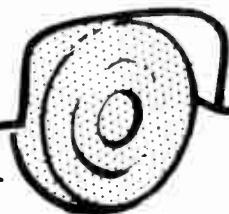
FAWN

DK BLUE OR BLACK

LACK LINES

MAROON

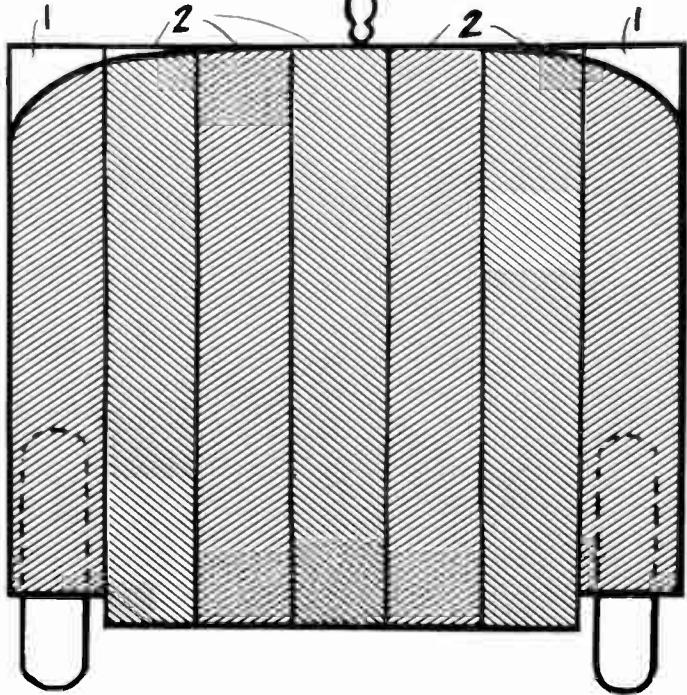
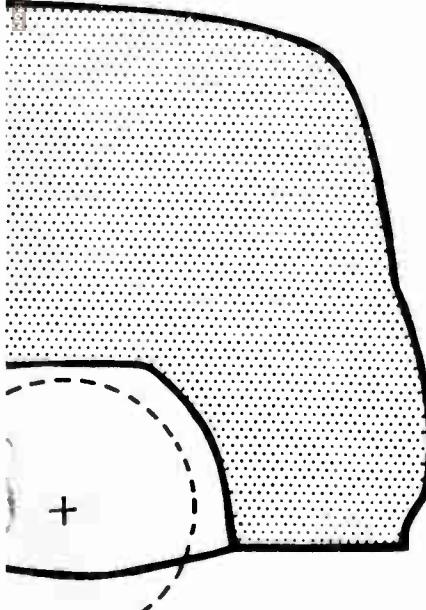
SHOWING SHAPING OF
VAN & DETAIL TO BE
PAINTED ON



HOBBIES SOLID
RUBBER WHEELS
 $7\frac{1}{2}$ D PAIR POST $4\frac{1}{2}$ D

CUT OUT
WITH A
FRETSAW

Hobby Photo



To improve reception

MAKE A SMALL WAVETRAP

A WAVETRAP is a device which reduces or removes interference caused by an unwanted station breaking through on top of a wanted programme. Trouble of this kind is particularly likely with any very simple type of receiver, because receiver tuning is then not very sharp, or selective. In this case, a local station may easily cause interference to the reception of other more distant stations.

By 'Radio Mech'

Another type of interference arises due to the large number of transmitters working on the medium wave band. For example, it is not unusual for a second station to be sufficiently close to the required station to cause an audible whistle. This may arise even with selective, efficient commercial receivers. Such interference sometimes spoils reception of an overseas station like Radio Luxembourg.

The wavetrap described here is intended for use with any receiver which employs an aerial which is external to the set — that is, an outdoor or indoor aerial. With simple receivers, it can be used to reduce interference from the local station. In other cases, it may be employed to reduce or eliminate interference and whistles of the kind described.

The circuit as shown in the illustration consists of a coil and condenser in parallel. To obtain sharp tuning, a dust cored coil is most suitable, though air-cored or home-wound coils may be used. A fully variable condenser is not needed, because the wavetrap may be left tuned, once it has been adjusted. A postage-stamp type trimmer is thus suitable, and it may be soldered directly to the tags of the coil.

The coil, with trimmer, must be tunable to the wavelength of the offending station. With dust-cored coils, some adjustment of wavelength is also possible by screwing the core in or out, as necessary.

The wavetrap is added in the aerial lead. That is, the aerial is taken to tag A, and a lead passes from tag B to the aerial socket or terminal of the receiver. The wire from B to receiver should be as short as possible. With many sets, the trap can be mounted in the back of the cabinet.

If the wavetrap is to reduce inter-

ference from a local station, so that more distant stations can be received, the receiver is first tuned to the local station. The trap trimmer is then adjusted, with

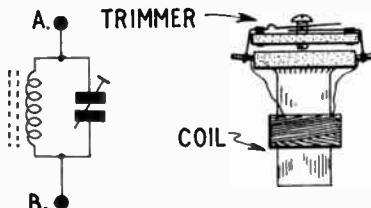


FIG. 1. Circuit and construction

an insulated tool, for minimum volume. Other stations can then be tuned in on the receiver, with less interference. In some cases the wavetrap may totally re-

move the trouble.

To remove an adjacent-channel whistle, the trap can first be tuned to the wanted station, as shown by a sudden dip in volume. If this dip cannot be obtained, the coil or trimmer does not permit tuning to the correct wavelength. For 208 metres, the usual medium wave coil may be used with a 50pF or 100pF trimmer. The trimmer is then slightly readjusted for best volume from the wanted station with zero interference.

An old plastic knitting needle, filed to engage with the trimmer screw, is ideal for adjustments. A screwdriver with insulated handle and metal blade is not very satisfactory.

If space is unimportant, any variable condenser and tuning coil to hand may be used. For medium waves, a medium wave coil is of course, necessary, with a 500pF tuning condenser.

MODERN POWER WOODWORK

By Charles Hayward

THIS book is intended for the man in the street who is interested in making things in wood, and who seeks to lighten his labours by installing suitable power equipment. The range of available machines is so large as to be bewildering, and the author assesses their value and suggests the types

likeliest to help the reader in accordance with the work he does, his accommodation, and his pocket.

In addition to the practical guide in using machines, there is a section devoted to designs for making things for the house and garden. Full dimensional diagrams showing construction are given, and cutting lists given wherever practicable. Every home woodworker will find this book invaluable.

Published by English Universities Press, price 25s.



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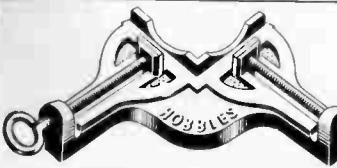
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linoleum · leather · cork · ceramics
canvas · plastic laminates
asbestos · glass · plaster

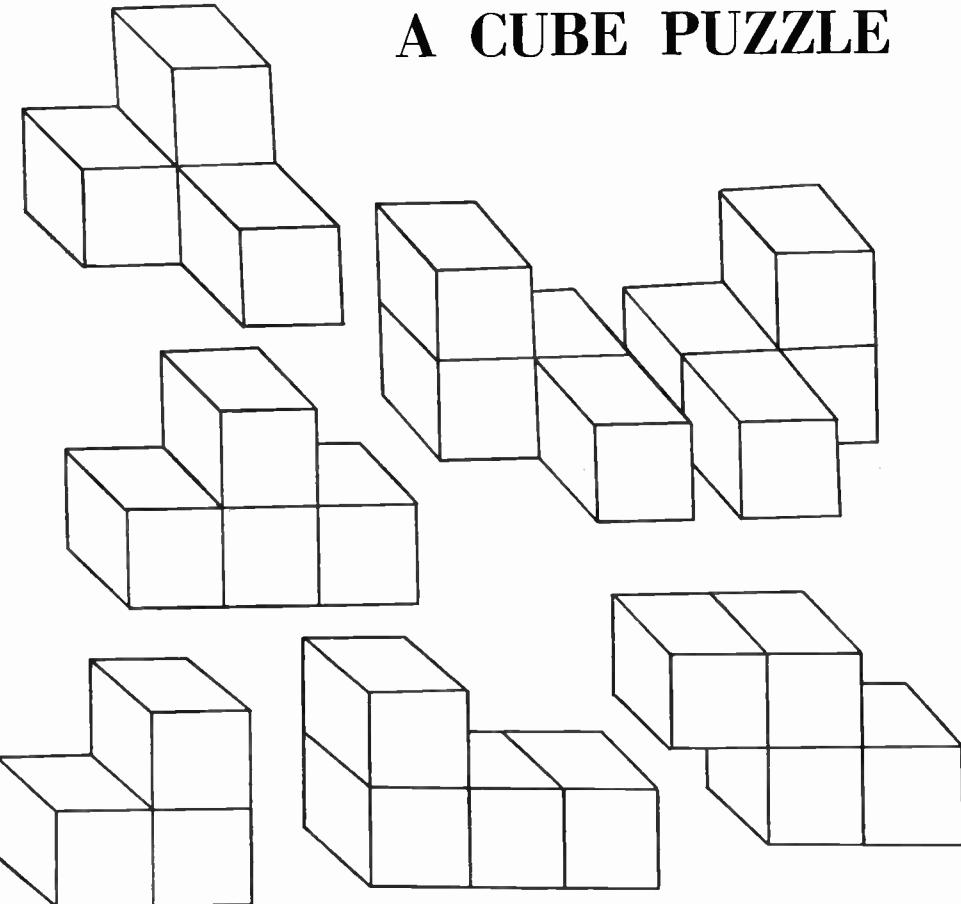
Handy Size 2/- Medium Size
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from Ironmongers, Hardware Stores, Do-it-yourself Shops

LEICESTER, LOVELL & CO. LTD., North Badsey, Southampton. Telephone: Rowhams 2131

A CUBE PUZZLE



THE seven objects depicted are not designs for buildings in a modern city. They are the parts of an absorbing wooden puzzle. You will be able to observe that the parts are made from 27 cubes. Six figures are each made from four cubes while that at the bottom left consists of three cubes.

You can make up the puzzle by sticking together 27 toy building bricks with glue — or with strips of Sellotape, if the blocks must later be returned to a young owner. In any case, the purpose of the puzzle is to assemble the parts to form one large cube.

If you go about this thoughtfully, your task may not take you long to accomplish; although the puzzle may baffle you for some time.

The puzzle is not usually very difficult. You should succeed well within an hour and you might finish in less than a minute. You will not need an illustrated solution to help you; the idea is for the solver to work on the shapes until successful.

If you wish to prepare a set of parts from 1 in. by 1 in. timber, saw up 27 neat 1 in. cubes and smooth them well with glasspaper, before forming the seven parts, as illustrated, by gluing the

cubes together. Well made cube puzzles will sell like hot cakes at a funds raising bazaar, especially if the parts are painted in bright colours.

(A.E.W.)

A NEW VOLUME NEXT WEEK

AS previously announced, because of heavily increased production costs we had intended putting up the price of Hobbies Weekly to 6d. from this date. The change has now been deferred to next week's issue (10th April) which will then start the new Volume 136.

There will be a change of cover colour and design (pleasing to readers, we hope) and a free plan in this issue will be for making a Child's Roll Top Desk. This is a project for which we have been repeatedly asked and readers should make sure of their copy by placing a

firm order with their newsagent or other supplier. The construction of a Pocket 2-transistor receiver will be described by 'Radio Mech.'

Readers who bind their copies of Hobbies Weekly in volume form for permanent reference will note that Volume 135 will contain 27 issues instead of the normal 26. Why not make a start now in binding your weekly copies in book form? Details of Easibinders which do this simply, effectively and cheaply can be seen in the advertisement opposite.

Build the 'Wensum' Dinghy

Specially designed by P. W. Blandford for those who require a general-purpose dinghy which may be used under oars or outboard motor as well as sail. It has a length of 11 ft. overall, has a good turn of speed under sail, and is suitable for racing.

Construction has been simplified as much as possible without sacrificing performance. It is one of the cheapest craft of its size designed for home construction.

FULL-SIZE PLANS AVAILABLE

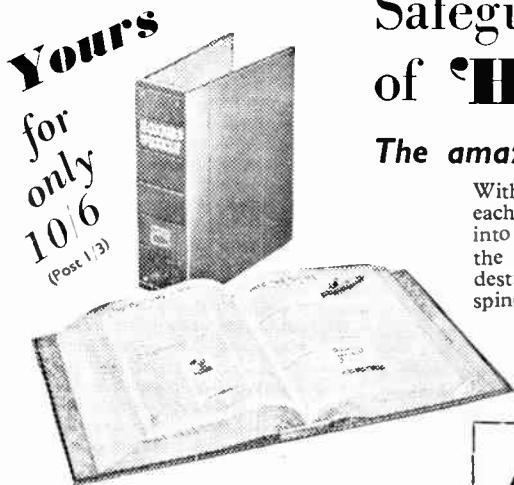
Complete plans for building the 'Wensum' Sailing Dinghy are available from Hobbies Ltd, price 16s. Od., plus 9d. postage. The plans include all the information needed to build the boat — full-size drawings of the frames and other shaped parts, several other detail drawings, a material schedule and step-by-step instructions — for rowing, outboard motor, and sailing.

Write for plans now to Dept. 99

**HOBBIES LTD., DEREHAM,
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Plans for other dinghies from 6 ft. available. Also many types of canoes. Ask for details



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DOROTHY PROVINE

DOROTHY PROVINE — 'Pinky' as she became known, following her appearance as the shimmy-shaking, cloche-hatted flapper in the *Roaring Twenties* TV series, 'Lulu' as she was dubbed after her *Don't Bring Lulu* disc hit — is not only a star of Warner Bros. TV and records, but also a glamorous personality. Glamorous because of her vivacious TV and disc personality, her natural, platinum blonde-haired, blue-eyed beauty, her unique achievement in being the only girl in the world to have chalked up two LP's in the Top Ten at one and the same time.

And she is also something of a curiosity, because of her passion for wearing 1920's flapper costume on — and off — screen. This is no pose. 'I really don't care what other girls are wearing', says Dorothy. 'I wear the 'twenties fashions because I love them. Sometimes I almost feel as if I were the re-incarnation of someone from back then — but don't ask me who or how!'

As an actress Dorothy appeared in 35 straight TV dramas without singing a note or dancing a step. As a dancer she did all her own choreography for her *Roaring Twenties* routines. As a singer she feels much closer to Helen Morgan, Helen Kane, and Ruth Etting, than to the pop singers of today. Her work in *The Roaring Twenties*, and in a recent Dean Martin teleshow has confirmed her feeling for the jazz age, leading many American critics to lament that more time isn't devoted to her singing and dancing.

By her devotion to the period Dorothy has scored a big success, though she earns it at high emotional cost. Two days after a Martin show, for instance, her eyes were still red from weeping. She felt she had 'goofed'. Yet reviewers had cited her work as a highspot of the show.

Robert B. Altman, who directed her in several Twenties segments, says neither the weeping nor the notices are surprising. 'Dorothy has all the necessary ingredients to become a star, in the true sense of the word', he explains. 'Her problems, which are many, are actually the kind that assure success; because without variety and confusion, I don't believe she can perform at her best level'. For stardom, Dorothy Provine is willing to bear the discomfort.

Dorothy Provine owns and drives a Jaguar. But she is a mediocre driver. When she tried to persuade Warner Bros. to lend her a Stutz Bearcat to promote *The Roaring Twenties*, the studio refused on the grounds that she would be a traffic hazard in a car without an automatic shift. 'It isn't that I don't drive', Dorothy confesses. 'I just drive badly'.

Most people regard her as an intellectual (she studied nuclear physics at the University of Washington), deeply compassionate (she has been known to read the story of a child's death in the papers, and burst into tears), shy (she



dates very little, hides her inferiority complex under a barrage of 'hip' talk and chatter), sensitive ('I like going to nice places, and wearing elegant clothes, but I hate being scrutinized all the time').

Born on 20th January 1937 at Deadwood, South Dakota, Dorothy is 5 ft. 4½ in. tall, and weighs 7 st. 12 lb.

In Hollywood, she acquired an imposing record of co-starring appearances in television shows, and appeared in several motion pictures, including *The Bonnie Parker Story*, in which she played the title role, and *Secret Bride of Candy Rock*, as co-star with Lou Costello. She recently co-starred with Donald May, Mike Road, John Denner, and Gary Vinson in the popular television series, *The Roaring 20's*.

A 'bachelor' girl, Dorothy lives in a hillside home in Beverly Hills, but is hoping to move into a larger place, where her family can stay when they visit.

Miscellaneous Advertisements

PENFRIENDS home and abroad, all ages. S.a.e. for details. European Friendship Society, Olney, Bucks.

WOULD YOU ENJOY painting flower pictures, etc? Then read 'PROFITABLE ART' (free). Wonderful opportunities for beginners and others. POPULAR ART (HW), Clun, Salop.

ENJOY WRITING? Then write for Profit. Send for 'Writers' Handbook' (free) detailing countless opportunities for beginner or experienced. — Writers' Ring (HW), 5 Edmund Street, Birmingham.

UNDER 21? Penfriends anywhere — details free. Teenage Club, Falcon House, Burnley.

FRIENDS' WORLD, Postbox 708, Calcutta India, Offers pen friends everywhere.

EARN RADIO & ELECTRONICS the NEW Practical Way! Very latest system of experimenting with and building radio apparatus — 'as you learn'. FREE Brochure from: Dept. H.W. 10, Radiostruktur, Reading.

100 DIFFERENT stamps free! Request ½d. upwards discount approvals. — Bush, 53 Newlyn Way, Parkstone, Dorset.

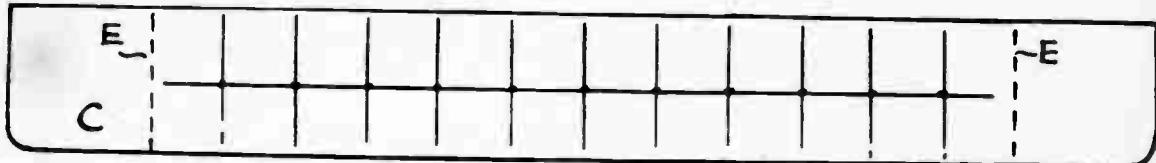
BUYING OR SELLING?

Classified advertisements on this page are accepted at a cost of 6d. per word prepaid. Use of a Box No. is 1/- extra. Send P.O. with advertisement to *Hobbies Weekly*, Advert. Dept., Dereham, Norfolk. Rates for display advertising on application.

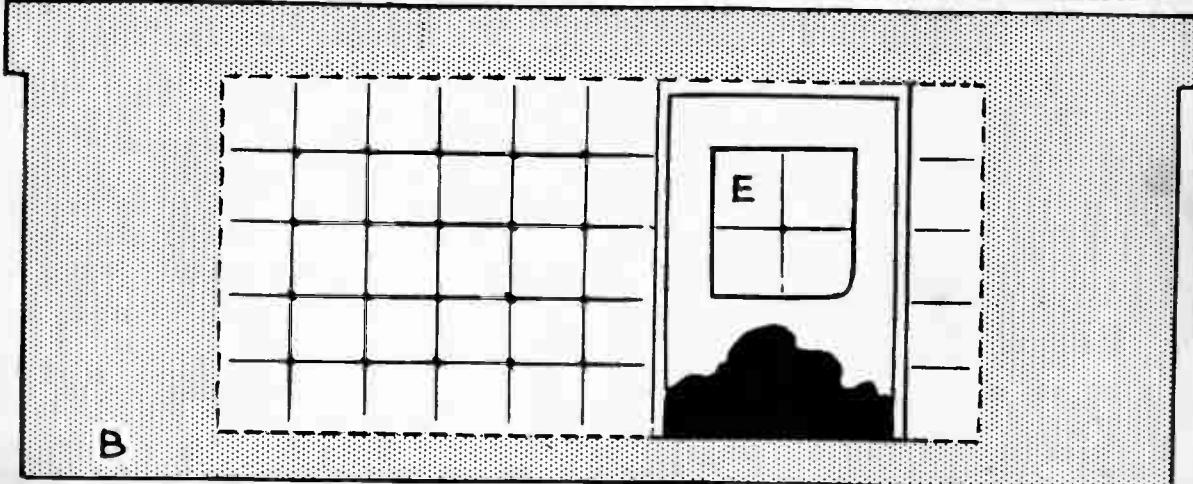
Full size patterns

DOLL'S HOUSE FIREPLACE

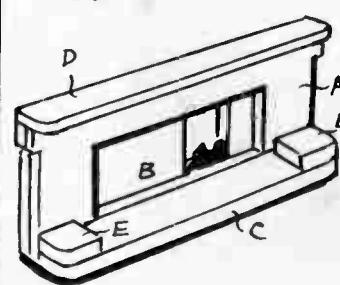
D



B



A



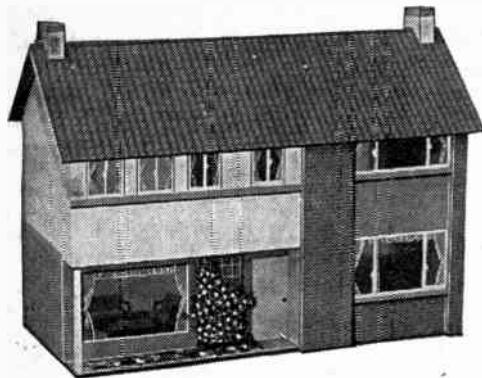
C

USE a fretsaw to cut out the various pieces for this little fireplace. Cut one piece A from $\frac{1}{2}$ in. wood, and one piece B from $\frac{1}{4}$ in. Glue B behind piece A. Cut one of C and two of E from $\frac{1}{4}$ in. wood. Glue pieces E to piece C and glue C to the front of A. Cut the shelf D from $\frac{1}{8}$ in. wood, and glue to the top of A.

The completed fireplace may be painted to simulate brickwork or may be covered by doll's house brick paper.

(M.p.)

GRAND READY-TO-ASSEMBLE KITS

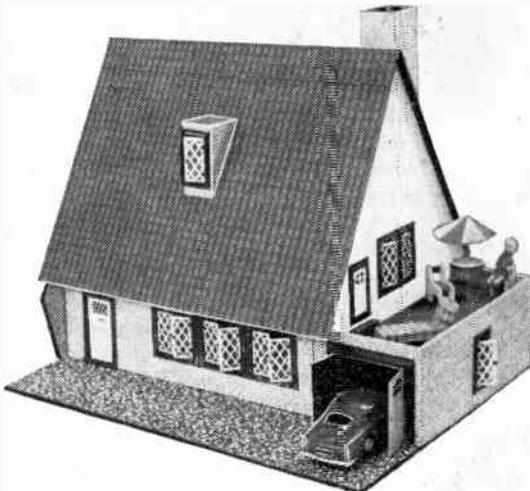


THESE
SUPERB
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HOUSES
MAKE
IDEAL
GIFTS

Kit R.T.A.6 The 'ROYAL'

Double door opening at back gives access to a modern lounge, hall entrance, kitchen/dining room, 2 bedrooms, bathroom and landing. Size 26 in. by 12 in. by 19 in. high.

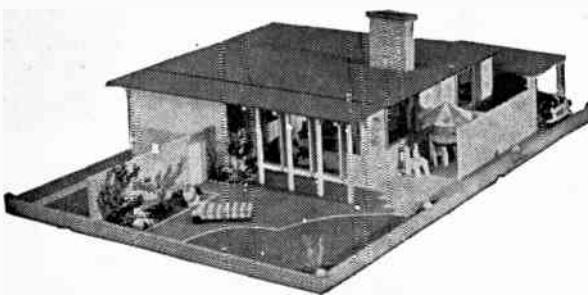
98/6d.
(carr. free)



Kit R.T.A.10 The 'CONTINENTAL'

Two openings at front give access to all three floors containing dining room/lounge, kitchen, hall, two bedrooms, bathroom, and large play attic. Garage with sun deck. Size 24 in. by 19 in. by 20 in. high.

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Kit R.T.A.7 The 'CELEBRITY'

Flat roof lifts off for easy access to each room. Ultra modern layout with five main rooms, including lounge with dining recess. Gardens, car port, service area, sun trap, etc. Size 36 in. by 24 in. by 8 in. high.

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*ALL PARTS
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*ALL MATERIALS
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Kit R.T.A.12 'Lindy' Play House

Designed for the larger scale of dolls' house furniture and maximum play value. Sliding front gives access to all three floors. Rigid construction. Size 15 in. by 9½ in. by 2 ft. 9 in. high.

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To Hobbies Ltd. (Dept. 99)
Dereham, Norfolk.

Please send Kit No. R.T.A. for which I enclose

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THESE BEING READY-TO-ASSEMBLE KITS, NO DESIGN IS REQUIRED, BUT FULL ASSEMBLY INSTRUCTIONS ARE INCLUDED IN EACH KIT. THE FURNITURE IS NOT INCLUDED, BUT CAN BE PURCHASED OR MADE FROM OUR DESIGNS.

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weekly

10th APRIL 1963

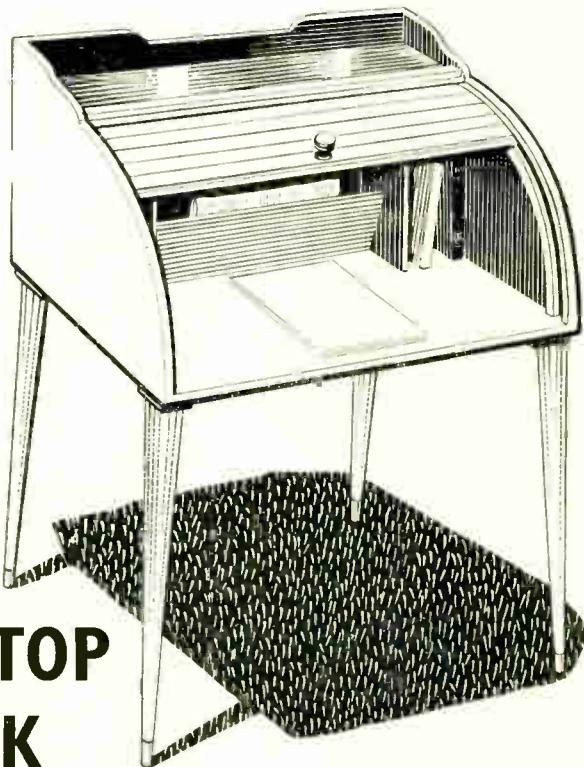
VOL. 136

NUMBER 3513

★
*FREE
Design
inside*

**WILL
LAST A
CHILD
FOR
MANY
YEARS**

**ROLL-TOP
DESK**



FOR CRAFTSMEN OF ALL AGES

6^d



BRIEF details of this new definitive stamp issue featuring plants from Sierra Leone are:

½d. **Fireball Lily** — This herb sends up a stout stalk, up to 2 ft. in height, which bears a head of many narrow flowers. The flowers, which are red in colour, often appear with no sign of leaves.

1d. **Jina Gbo** — This is an erect shrub or small tree with very long, erect or pendant, tubular flowers which grow either

NEW SET FROM SIERRA LEONE

singly or in small bunches. The flowers are white with purple patches.

1½d. **Stereospernum Kunthianum** — A tree of savannah woodlands, up to 30 to 40 ft. high, with drooping panicles of pink or purplish and darker streaked flowers. The wood is pale and hard and is used as a medicinal remedy for stomach upsets. It has many links with superstition which prevent its use as firewood. The smoke is believed to conduct leprosy and the bark is regarded as a preventative of witchcraft.

2d. **Black Eyed Susan** — A perennial herbaceous twining plant, from tropical Africa, 3 to 6 ft. long. It has thin stems and solitary flowers of orange or white with a dark centre.

3d. **Beniseed** — Also known as Sesame or Gingelly, Beniseed is an erect plant which grows from 2 to 5 ft. in height with few branches. The solitary axillary flowers are white with purple spots and closely resemble the English foxglove. The plant is cultivated for the oil which is extracted from the seeds.

4d. **Blushing Hibiscus** — This shrub, also known as the Maiden's Blush, derives its name from the fact that the flowers, which are white, gradually turn pink as they fade and finally become red. The plant grows to 10 ft. in height.

6d. **Climbing Lily** — Also called the African Honeysuckle, this decorative climber is found in secondary forest areas or in thickets. The large, solitary, yellow, axillary flowers turn inside-out while



maturing and change colour through pink to red.

1s. **Beautiful Crinum** — This plant has large white flowers and the leaves are used medicinally to bathe sick children. It is often grown as an ornamental plant but it is also found wild.

1s. 3d. **Blue Bells** — A climber, somewhat shrubby below with deep blue flowers, occasionally pure white.

2s. 6d. **Broken Hearts** — A woody, climbing shrub with crimson flowers in loose heads. The stamens are long and projecting and the calyx is white.

5s. **Ra-ponthi** — This tall plant grows up to 7 ft. high, usually in marshy places. The flowers, which are 2 or 3 in. in diameter are a conspicuous red-purple colour or, very occasionally, white. The fruits are reddish-brown.

10s. **Blue Plumbago** — A semi-climbing, sub-shrub, it produces attractive blue flowers all the year round.

£1 **African Tulip Tree** — Sometimes called Flame Tree or Fountain Tree, it grows 20 to 70 ft. high with conspicuous flaming inflorescence. Its flowers are scarlet or orange-red with yellow margins.

These are by no means rare!

SHEETS of Christmas postage stamps issued by U.S.A. that do not contain a plate number on the margin are not a philatelic rarity, it has been announced. Millions of such stamps have been sold and these did not escape sharp-eyed inspectors at the American Bureau of Engraving and Printing.

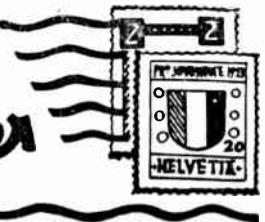
An unprecedented demand for these stamps temporarily exhausted paper

stocks and off size sheets of paper were substituted, with the result that plate numbers did not appear. The substitute paper used for nearly 50 million stamps cannot be distinguished from original.

One billion Christmas stamps were printed and distributed — nearly three times the initial print order of 350 million — and no other stamp has sold so heavily in such a short period of time.



Stamp Collector's Corner



An increasing number of philatelists are realising the impossibility of making a complete collection of the stamps of the world and consequently they have to decide which they are going to collect and which they are going to overlook.

Most collectors start with an all-world collection, and this is very wise. The experience of collecting all kinds of stamps will enable the choice of country area, or topic in which to specialise

CONCENTRATE ON AIRMAIL

By L. P. V. Veale

to be made much more carefully and sensibly. Many people select a country for their special study and they are probably guided in making the decision by the fact that they have a friend or relative in that country; or perhaps they have been lucky and had a fairly good collection with which to start specialising.

Again, some people take a particular theme and collect only stamps that have a bearing on it, such as native costumes, hair styles, hydro-electric power and so on.

A very large number of people have taken up the study of airmail and they collect nothing unless it has a bearing on the conveyance of mail by air. During the last war a little girl whose brother was a prisoner of war in the Far East and from whom a letter had not been received for a long time, went to school very excited one day and told the teacher that they had at last had a letter from him. 'Oh good,' said the teacher, 'Did it come by airmail?' 'Oh, no' replied the little girl, 'the postman brought it'.

It is quite probable that many people in Gt. Britain know little about the airmail service, the reason being that we do not have special stamps. What, for example, is the airmail letter rate to Italy? Well, of course, there is no extra charge for letters to Europe. They are sent by air at the surface rate if by so doing they will arrive more quickly.

Most countries, however, have special air stamps and an airmail collection can be a most interesting one. Before mails were carried by air there was quite a lot of pioneer work carried out. It had to be proved that there was every chance of the letter or parcel arriving perfectly safe at its destination; also that the gain in time made the payment of an extra fee worth while.

Now about this pioneer work — when did it start? How can the stamp album recall this work, some of which was centuries before stamps were thought of? Well there is no law to prevent the use of



HUNGARY (top) Icarus. ITALY—Da Vinci's wings. U.S.A.—Wright Brothers' first flight.

old-time designs for a stamp. Take, for instance, the first illustration. This is one of the 1924 air issues of Hungary and it shows a picture of Icarus, who in classical mythology was the son of Daedalus. When he and his father escaped from Greece by flying, Icarus flew too near to the sun and this melted the wax that bound the feathers of his wings and he fell into the Aegean Sea. One could consider this as one of the earliest attempts at flying and include it in the collection.

Probably better known than Icarus is Mercury, the Roman equivalent of the Greek Hermes the messenger of the Gods, son of Jupiter and himself a potent deity. He led the souls of the dead to the underworld and was the patron deity of travellers and of thieves and criminals. He bears in his many representations, talaria (wings) on his feet, a petasus (cap with wings), a herpe (special kind of sword) and a caduceus (staff entwined with serpents). The 1940 50c of the air issue of Argentina is quite a good example, but the herpe and the caduceus are missing.

There are a number of pictures on the stamps of Greece. In fact it was the head of Hermes which formed the central part of the design of all Greek stamps from 1861 to the first Olympic Games issue of 1896. And the full figure is used as the design for the 1901 issue. These are very common stamps, so we shall not illustrate them here.

Da Vinci's machine

Leonardo da Vinci's name has been very prominent lately due to the fact that his masterpiece the 'Mona Lisa' has been on loan in the U.S.A. But da Vinci was far more than a painter; he was also a skilled architect, an engineer, a mathematician, musician, poet and sculptor. He studied birds in flight and tried to make man a pair of wings which he would be able to work like a bird. He did not himself try his flying machine, which is seen on the 50c of the 1932 air set from Italy (second illustration). But one of his admirers did and finished up with a broken leg, and he was lucky to get off so lightly. Da Vinci lived from 1452 to 1519 so man has obviously been experimenting with flying for a very long time.

If we now pass from the realms of possibility to probability and then on to actual success we must consider the U.S.A. issue of 1928 which came out to commemorate the 25th anniversary of the Wright brothers' first flight, this date coinciding with the Civil Aeronautical Conference. One stamp (third illustration) shows a picture of the machine which on December 17th 1903 left the ground for a flight of just twelve

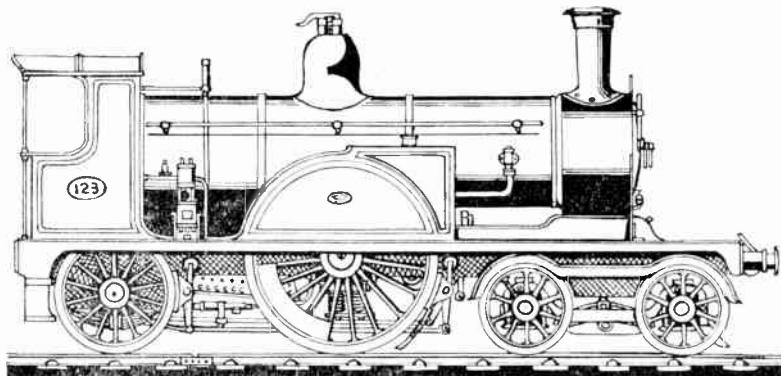
● Continued on page 4

A 'CALEDONIAN' Flier

ONE of the most interesting exhibits shown at the Edinburgh Exhibition of 1886 was the handsome 4-2-2 express engine which had been erected and designed by Neilson & Co. of Glasgow in that year. As the engine was to be purchased by the Caledonian Railway after the Exhibition she was given the C.R. running number 123 and was provided with Dugald Drummond's C.R. cab, boiler fittings and certain other details. She was also equipped with the then newly invented air sanding gear which had been invented by Mr F. Holt a Derby engineer of the Midland Railway.

The principal details of this handsome engine were: Wheel diameters; Bogie 3 ft. 6 in. Driving 7 ft 0 in. and Carrying 4 ft. 6 in. Cylinders: 18 in. diameter and 26 in. stroke. Wheelbase: 6 ft. 6 in. + 6 ft. 7 in. + 8 ft. 0 in., total 21 ft. 1 in. Boiler; mean inside diameter; 4 ft. 3 in. containing 196 tubes of 1½ in. diameter giving a heating surface of 973 sq. ft. The firebox provided 112 sq. ft. making the total 1,085 sq. ft. Grate area 17·4 sq. ft. and working pressure 150 lb. p.s.i. Weight in working order: on bogie, 13 tons 10 cwt; on driving wheels, 17 tons on carrying axle, 11 tons 8 cwt; total, 41 tons 18 cwt, the empty weight being 37 tons 19 cwt.

The slide valves were placed vertically between the cylinders but the exhaust was divided, that from the top of the valves passing directly to the blast-pipe the portion from the bottom being taken round the cylinders as specified by Mr



Caledonian Railway. Express locomotive No. 123. Designed and built by Neilson & Co., Glasgow, in 1886.

Drummond. This arrangement enabled the cylinders to be placed at 2 ft. 3 in. centres and allowed more space for wider crank webs and longer driving bearings.

Adams 'Vortex' blast-pipe was used, the motion plate was cast steel and the driving springs helical. The firebox crown was elliptical, being supported by sling stays attached to bridge rails riveted to the casing. The tender provided was the usual C.R. six wheel type of the period.

During the famous railway race to the North in 1888 this engine put up some remarkable performances with the London-Edinburgh day Scotch expresses

and ran from Carlisle to Edinburgh (with a load of four bogie coaches) a distance of 100½ miles maintaining a daily average time of 107½ min. The run included the long climb up the formidable Beattock bank of which 2 miles are 1 in 88, 2 miles, 1 in 80 and 6 miles, 1 in 75. Her best time was 102 min. 33 sec. at an average speed of 58·94 m.p.h.

When she was taken over by the L.M. & S.R. in 1923 she was given L.M.S. No. 14010 and painted in the L.M.S. crimson livery. The engine is now restored to original Caledonian Railways livery and preserved by British Railways. (A.J.R.)

● Continued from page 3

CONCENTRATE ON AIRMAIL

seconds! It is only fair to say, however, that the same day it maintained a flight of half a mile. Five years later the brothers succeeded in making a flight of 1½ hours, during which time they covered a distance of 45 miles.

Channel crossing

So far as air travel is concerned the next significant milestone was the crossing of the English Channel. The Daily Mail had offered a prize of £1,000 to the man who was the first to cross the water in a heavier than air machine (we will have something to say about balloons and airships later). On the 19th July 1909 Latham took off but had to be rescued by a destroyer in mid channel. Many people were very angry at these attempts — they considered that the competitors

were trying to commit suicide! Louis Bleriot had his turn on 25th July and succeeded in his monoplane, thereby winning the prize.

In 1919 Capt. John Alcock and Lt. Arthur Brown flew from St. John's, Newfoundland to Ireland. Mr Harry Hawker also made an attempt before Alcock and Brown but unfortunately came down in mid-Atlantic and was rescued by a passing ship. He carried some mail which finished the journey by sea and the stamps, the 3c of the Newfoundland Caribou issue of 1919 overprinted 'First Trans-Atlantic Air Post April 1919,' are today very valuable — worth far more in fact than the stamps used on the first successful flight.

In 1931 Newfoundland issued three airmail stamps and the one dollar value

of this set had a very interesting design. It was a map of the North Atlantic and showed the routes, followed by the first seven flights over the Atlantic. Against each route was the name of the airman and the date of the flight.

(To be continued)

Advertisers' Announcements

BUMPER VALUE STAMP PACKETS		
100 Large Pictorials	4/6	25 Super Space
100 All World	1/6	100 Famous Men
500 ..	6/-	10/-
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..	8/-	100 Australia
ALL GUARANTEED	FULL LISTS FREE	3/9
SUPA STAMPS (H)		
I Littlebury Gardens, Colchester, Essex		

100 DIFFERENT stamps free! Request 1d. upwards discount approvals. — Bush, 53 Newlyn Way, Parkstone, Dorset.

Model Buildings Made of Concrete

REALISTIC and durable buildings for a model railway lay-out are easy to make from concrete, using only cardboard boxes of various sizes for moulds. Other advantages of using concrete for this purpose are that it is inexpensive, and suitable for both indoor and outdoor use.

The concrete used throughout is a strong, 2:1 sand and cement mixture, with just enough water to give a smooth, creamy mix. Some points to watch are that the inside surfaces of the moulds are smooth — they should be smeared with oil, applied with an old rag, for easy removal of the finished block.

The moulds should be adequately supported with blocks of wood, bricks, and other odds and ends, so that when the cement is poured, the sides do not bulge. The one thing which a modeller in concrete must have primarily is patience. The pieces should not be removed from their moulds for at least two days, and left longer, if possible, no matter how great the temptation is to see how the concrete is getting on.

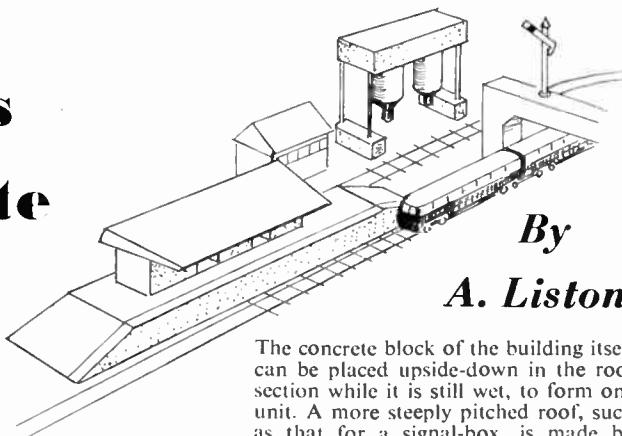
Platforms of various widths and lengths A are very simple to make, using a mould of thin card cut to the shape shown B. This is taped together on the outside to make a punt shape C and

filled with cement. Gentle tapping on the mould just after the cement has been poured will help to prevent bubbles and cavities forming.

Although a thickness of only $\frac{1}{2}$ in. is attainable, a slightly thicker platform will be more robust. For platforms over 9 in. long, steel reinforcing rods — knitting needles or lampshade wire — are buried lengthwise in the cement while it is still wet.

Station buildings D are simply blocks of cement cast in cardboard boxes. To relieve the box-like appearance of the block, however, an entrance-way can be introduced by pinning a block of wood to one side of the cardboard box mould E.

Roofs of various types are made in box lids, sloping at various angles. The almost-flat station roof F is made by tilting the lid slightly (as shown at G).



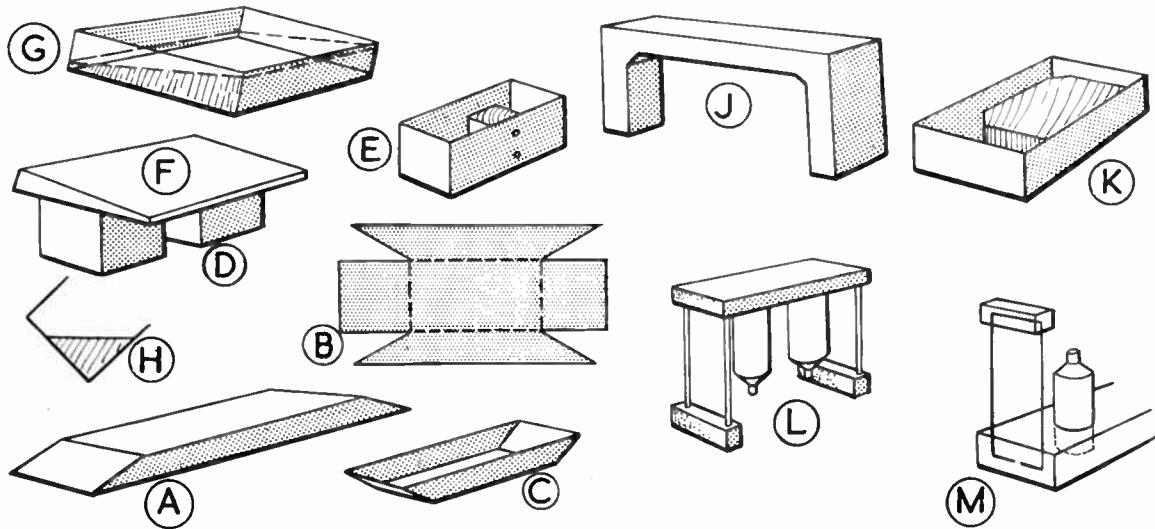
By

A. Liston

The concrete block of the building itself can be placed upside-down in the roof section while it is still wet, to form one unit. A more steeply pitched roof, such as that for a signal-box, is made by tilting the mould to 45 degrees H.

A multi-purpose shape, suitable for signal gantries or tunnel entrances J is made in the way shown at K. A wooden block fills part of the mould, forming the arch of the gantry. The large hopper unit L is made by standing two plastic detergent containers, with their bottoms cut off, in a lid mould filled with wet cement M. Two rectangles of stiff wire are pushed into the concrete for legs. The whole unit is then turned over when it is completely dry, and the ends of the wire legs embedded in small box moulds of concrete to make solid feet.

While the natural finish of concrete looks most attractive and realistic, windows, doors, roofs, and so on can be finished with a flat paint. Ordinary poster paint can be used for this, but emulsion paint gives a more durable finish. It should be carefully applied with a small water-colour brush.

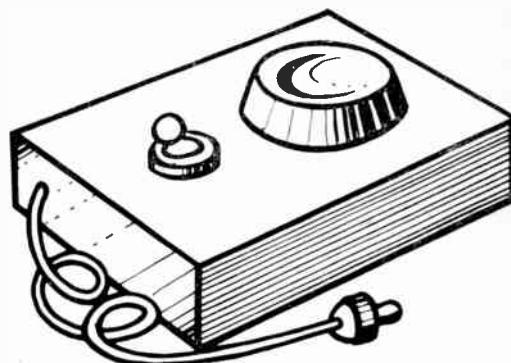


For 'personal' listening

A POCKET TRANSISTOR 2

By

'Radio Mech'



THIS receiver is of small size, and runs from a single $1\frac{1}{2}$ V. dry cell. It is intended to work either headphones, or a single personal earpiece of the kind used with transistor portables.

The receiver has a ferrite rod aerial, and this can give enough signal strength when the set is used reasonably near to a broadcasting station. Small receivers of this kind are not, however, intended for reception of more distant stations, unless an external aerial is added. This aerial need not be long. In most cases, a few feet of thin insulated wire, suspended as convenient, or even placed along the floor, will be sufficient. With such an external aerial, really good phone volume should be expected, unless the set is being used in an area where conditions are poor.

The circuit is shown in Fig. 1, and is intended for cheap red spot transistors. With the first transistor, connected to the diode, red/yellow spot and green/yellow spot transistors were also found to work well. For the second transistor, a red/yellow spot transistor was also satisfactory. The rather more expensive type of transistor, of named manufacture, is naturally suitable.

The diode should be of best quality, as cheap surplus diodes may have reduced efficiency. The circuit is very straightforward, consisting of the diode as detector, followed by two stages of audio amplification, and it is quite easy to try any diode or transistors which may be to hand.

A ready-made ferrite rod aerial of different size to that shown, but for medium-wave reception, can be used. The $0.5\mu F$ condenser may be any value from about $0.25\mu F$ to $10\mu F$ or so. If an electrolytic condenser is used, negative is taken to the $4.7K$. resistor.

Panel

The receiver is constructed upon a panel of thin Paxolin, 4 in. by $2\frac{3}{4}$ in. All components and wiring are shown in Fig. 2. The $500pF$ tuning capacitor and switch are first fitted in suitable holes, and the parts are wired up as indicated. The $4.7K$ resistor is yellow-purple-red, and the $220K$ resistor is red-red-yellow.

To hold the parts in position, small holes are drilled in the Paxolin, where joints are made. The ends of leads are passed through these holes, to anchor the components.

The two leads shown in dotted lines are on the other side of the panel. Care should naturally be taken that no wires or joints can touch each other, or other bare parts.

Ferrite rod

This is 4 in. by $\frac{3}{8}$ in. diameter and is wound with 28 s.w.g. DCC or similar wire. After winding on 65 turns side by side, a piece of paper or thin insulating tape is put on, and the 20 turn winding is made on this. Touches of adhesive will hold the ends of the windings in place.

A small strip of wood is placed under each end of the rod, and held with a touch of cement. Elastic bands are then looped through small holes, to hold the rod to the panel.

There is no need for the rod to be of the exact size mentioned, and ready-made aerials of this kind may be used, and will give similar results.

Transistors

Leads from these should be left almost full length, and the wires should not be bent sharply just where they emerge from the transistors. The Collector, Base and Emitter wires must be soldered to the correct points.

With red spot transistors, the red spot indicates the Collector lead (C in Fig. 2). The Base lead B is placed centrally, and the remaining lead is the Emitter, E.

With some transistors, such as green/yellow spot types, Emitter and Base leads are close together, and the Collector lead stands a little apart from them.

It is easy to compare the performance of the transistors, or test them individually. To do this, the phones or earpiece are wired across the $4.7K$ resistor, so that only one transistor is necessary. The performance of very cheap surplus transistors can be expected to vary considerably.

Wires from the diode are also fairly long, and its negative end goes to the transistor Base. Joints must be soldered rapidly, the iron only remaining in contact with the leads for a second or so. Lengthy heating may spoil the diode, or transistors. Heat is less likely to reach the actual component if the wires are left quite long.

If there is any danger of transistor wires touching each other, or other leads, then thin insulated sleeving should be placed on the connections.

Phones

Two small loops of wire are soldered in small holes, for the phone connections. A magnetic earpiece, or ordinary phones, or a single phone on a length of thin twin flex, may be used. Miniature personal earpieces are very small to carry, but are less comfortable for listening than phones with headband.

Crystal earpieces, as occasionally used for deaf-aids and similar purposes, cannot be used.

The battery is not added until wiring is finished, and has been checked. Any

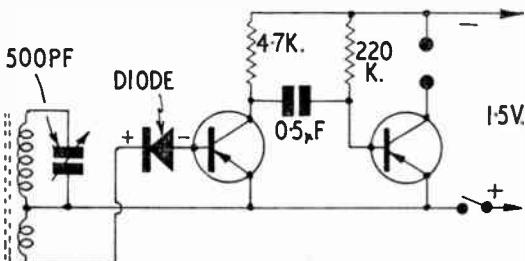


Fig. 1—The transistor receiver circuit

single dry cell, such as used in small torches, etc., will be satisfactory.

The cap of the cell is positive, and the zinc case is negative. Leads can be soldered directly to the battery, as this avoids any trouble due to bad contact. Current drain is so small that the battery only needs replacing at very long intervals.

Case

The receiver will fit in a small case, approximately 4 in. by $2\frac{3}{4}$ in. by 1 in. deep inside dimensions. Two holes in the front of the case match up with the tuning condenser bush, and switch. The condenser nut will hold the receiver in the case. A washer should be placed between the Paxolin panel, and case.

A suitable case can be made from thin wood, or from other material, such as Paxolin or Perspex. It is also possible to buy various small plastic boxes, and one of these will be suitable, though it will not be of exactly the size given. A small cardboard box might also be used.

Wire aerial

This is taken to the terminal A of the 500pF variable condenser. A short, throw-out aerial can be made from a piece of thin, insulated flex. Different positions can easily be tried for the aerial. Results will often be best if the wire is vertical, or nearly so, though this depends on local conditions.

Small, telescopic aerial rods are made, which will remain vertical without any top support. Similar aerials are available

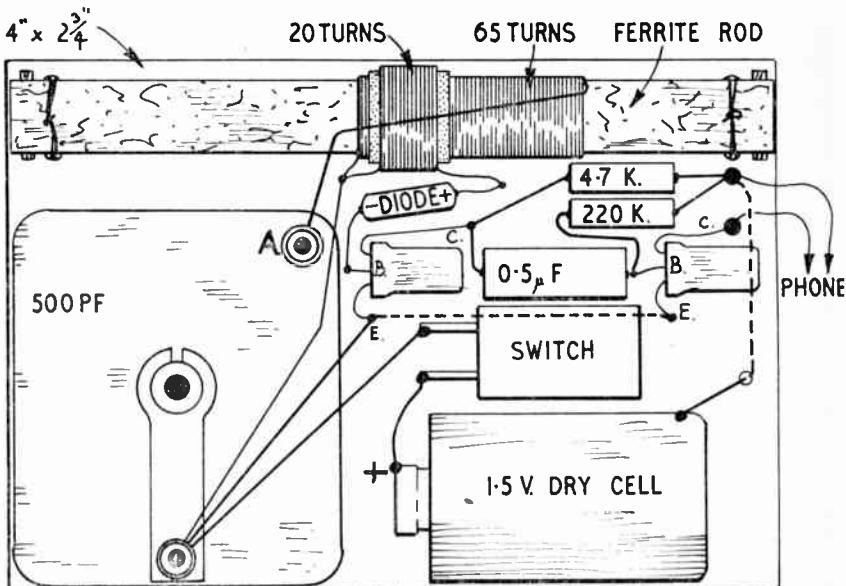


Fig. 2—Components and wiring

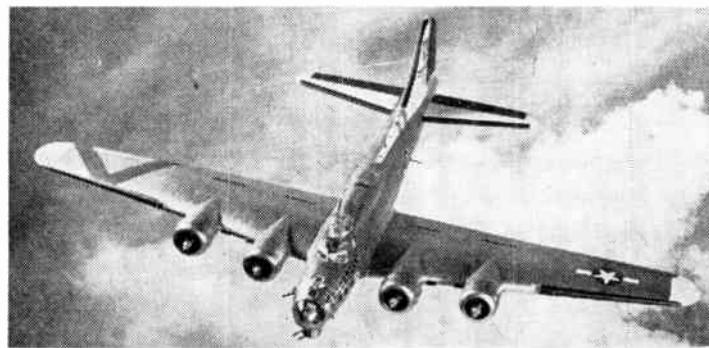
for clipping on the window of a vehicle.

When the receiver is within range of a station, without any external aerial, it may be turned as found to give best volume, as the ferrite rod aerial is directive.

Signal strength is likely to be very small in a well screened position, such as

the inside of a metal fabricated building. This is unavoidable, but can be overcome by using an outdoor rod or wire aerial, with a lead-in to the receiver.

In some cases good signal strength is obtained by taking the aerial terminal to an earthed object. This can easily be tried.



'FLYING FORTRESS' JOINS AIRFIX

Moving guns, rotating turrets, retractable under-carriage, and movable elevators and ailerons are the outstanding features of the new Airfix model of the *Flying Fortress*, famous bomber aircraft of the last war, and latest in the well-known series of 1/72nd scale aircraft models.

The Flying Fortress kit contains 101

fully-detailed parts, and when assembled makes a model some $17\frac{1}{2}$ in. long, with a wing span of $12\frac{1}{2}$ in.

Flying Fortresses underwent various modifications during the war, the last of which resulted in the B-17G used by the U.S. Eighth Air Force, which is the subject of the new Airfix kit, which retails at 7s. 6d.

Radio-Controlled Models

THE popularity of radio-controlled models has increased considerably over the past few years, and this book is an ideal introduction to the subject.

The control by radio, not only of models but of a wide range of mechanisms, is a fascinating branch of electronics which has warranted the preparation of this standard work on the subject. It covers both the radio and mechanical side of the equipment needed and describes in detail a number of practical examples of application.

Published by C. Arthur Pearson Ltd.
Tower House, Southampton Street, London, W.C.2. Price 12s. 6d.

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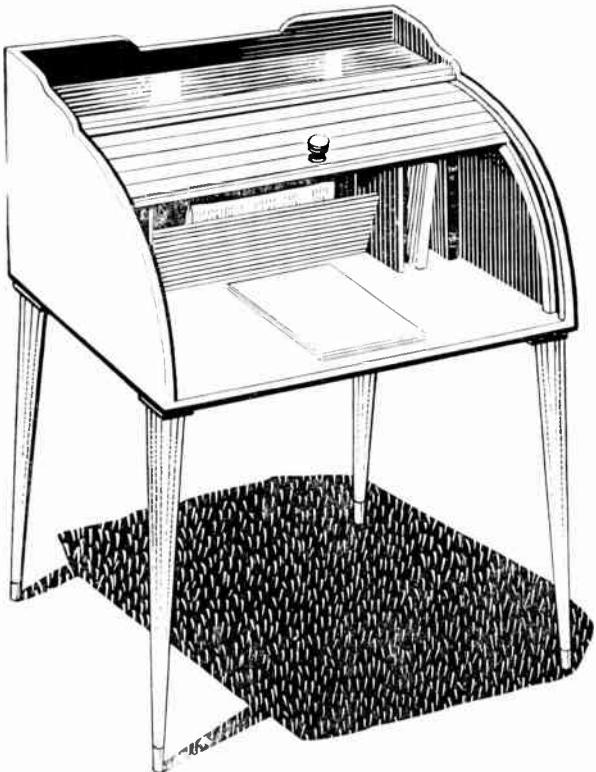
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ROLL-TOP DESK FOR CHILDREN

**ALL
DETAILS
ON
FACING
PAGE**



FROM a very early age all children derive an immense amount of pleasure with a pencil and pieces of paper to scribble on. Later on comes their homework and this writing desk has been designed to give such a service over a large number of years.

As an added attraction we have given it a roll top which is only to be seen in the most expensive of such articles in the shops. For a comparatively modest outlay, therefore, your child can have the very best in writing desks. A roll top also, of course, makes for tidiness as there is no flat surface on which to leave books etc, as is the case with the normal flat top and lift-up lid.

Contemporary legs

The desk contains two pigeon holes for small reference books, and a larger partition for notepaper and envelopes. There is a small flat section at the top for holding pens and pencils etc, and there is an adequate area for writing purposes. The base of the desk is approximately 24 in. by 14 in. and the whole thing stands on contemporary legs.

There is no difficulty in making up the roll top or in fixing the legs, but the use of the fretsaw is essential for cutting out

the roll top guides as will be explained later. Otherwise cutting out and assembly is very simple if the instructions are followed closely in conjunction with the illustrations.

The linen cloth required for the roll top and the contemporary ferruled legs are included with all other materials in Hobbies kit.

On the design sheet, the shaped parts such as the sides and guides are shown full size. These will be traced and transferred to the appropriate thicknesses of wood preparatory to cutting out. Other parts forming the desk are given by measurements only. Notice that piece 5 which is the back, may be left plain or shaped along the top as shown in the finished illustration. These measurements will also be transferred to the wood, and make sure that all parts are accounted for on the wood supplied in the kit before cutting out the various pieces. There is enough wood, and the parts must of course be laid out for economical cutting. When this has been done, clean up with glasspaper, making sure to get a particularly smooth surface on the 'working' edges of the guides.

The use of glue with the addition of frettips can be followed throughout the

assembly. Fig. 1 shows one of the matching sides of the desk, and these of course will be made up with the guides facing each other inwards. The positions of these guides are shown by dotted lines on piece 1 on the design sheet.

Next glue and pin piece 6 to piece 5, adding the ledge 12 as shown in Fig. 2. Fig. 3 shows how these two assemblies are put together with the addition of base 7.

The partitions forming the paper rack and pigeon holes are shown in Fig. 4. Glue and pin pieces 9 and 10 together, then glue piece 8 in position at the back of the desk, fixing it to the floor and to the recesses cut for this purpose in the guides 3. Pieces 10 are then glued centrally to pieces 8 as seen in Fig. 5.

Four blocks 11 are glued under the corners of the base Fig. 5 and then the plates to which the legs are finally attached can be added.

Making the roll top

The makeup of the roll top is shown in Fig. 6. It consists of wooden slats glued side by side on to the piece of linen which is approximately 16 in. long. The slats are NOT glued to each other. Note that the 35 slats of $\frac{3}{8}$ in. by $\frac{1}{8}$ in. strip-wood are given on the design sheet as measuring $23\frac{1}{2}$ in. long. This measurement should be scant so as to ensure free movement of the roll top in the guides. This movement should be checked before cutting the slats as it may vary with individual makeup. Now add the strip 15 shown in Fig. 6 under the leading slat so as to give rigidity and sufficient thickness in order to make a small knob.

The roll top is inserted in the groove and after finally ensuring ease of movement, the top guides 14 are fixed in position to the sides as shown by dotted lines on the design sheet.

For a project of this nature we recommend it as desirable to stain, say, a light oak and finish with varnish which will be hard-wearing. The contemporary legs are screwed into their metal plates after finishing in a like manner (see Fig. 5).

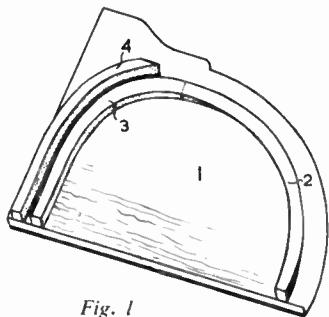


Fig. 1

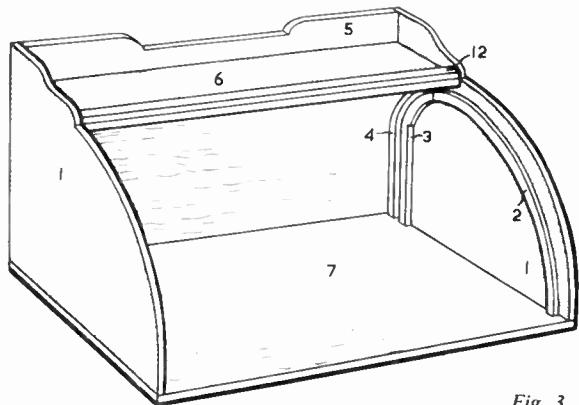


Fig. 3

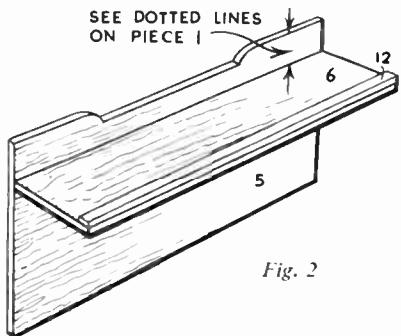


Fig. 2

★★★★★★★★★★★★★★★★★★
A Kit for 43/3
 ★ Hobbies Kit No. 3513 for
 ★ making the Child's Roll Top
 ★ Desk consists of plywood panels,
 ★ stripwood, linen, fittings and
 ★ tapered legs. Kits price 43s. 3d.
 ★ from all branches and stockists
 ★ or direct from Hobbies Ltd,
 ★ Dereham, Norfolk (carriage
 ★ 4s. 0d. extra).
 ★★★★★★★★★★★★★★★★★

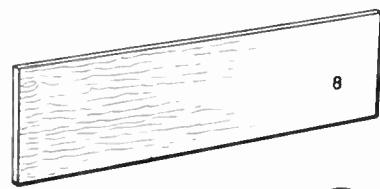


Fig. 4

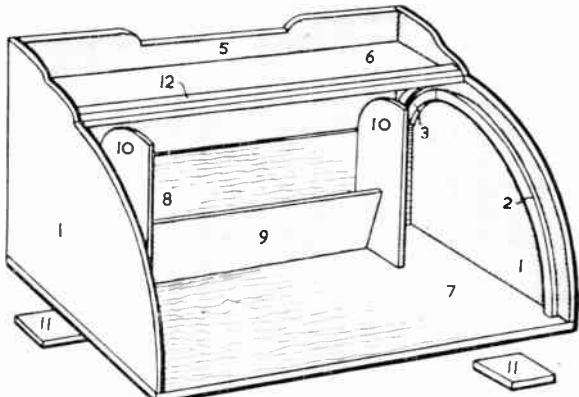


Fig. 5

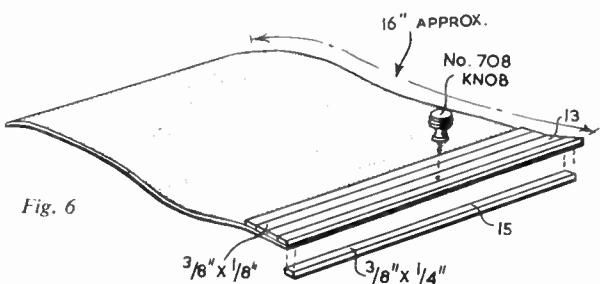


Fig. 6

A professional finish

LETTERING FOR ALL

WHENEVER you have the need for some really perfect lettering, equal to that of a skilled craftsman, we have no hesitation in recommending Letraset Instant Lettering. This lettering can be used on paper, leather, board, glass, wood, most metals and plastics.

The letters are prepared, there is no need to buy special stencils or Indian ink and consequently there is no danger whatsoever of smudging your work. Moreover, the letters are available in black, white, red, blue and yellow while a few numbers are made in gold.

By S. H. Longbottom

Some examples are shown in our illustrations and although you will see that we have a wide variety the full range is extensive. This includes capital letters from $1\frac{1}{2}$ in. to $\frac{1}{16}$ in. deep with small letters to match. Roman letters, old English, copperplate and modern types are at our disposal as well as large and small numbers. The latter are also available in circles, there are lots of borderings, symbols for charts and if you require them, Greek symbols.

It is reasonable to say that the range caters for any class of lettering you require, far beyond the range of stencils.

This variety enables us to affix decorations to models or prepare charts, notices and bills. Bold letters may be used for the latter while smaller type is more suitable for models, but let us examine some practical applications.

If you have made a boat or model train it is an easy matter to add the name or number. In fact, the model railway enthusiast will find lots of uses. He may make station nameboards, advertisements, indicator boards and all those things requiring clear lettering in miniature. And since there is such a range of sizes there is sure to be a type to meet any requirement. When the letters are used on a boat likely to be exposed to water we apply a protective coating. We can also use the letters for adding names to decorated tinware e.g. Tea, Biscuits, Cakes.

Apart from the above mentioned practical handicrafts you may also require lettering for adding your name inside your books or the titles on those you have backed. You cannot avoid making a much better finish than is possible by handwritten methods for you are actually using real printed letters.

In the home we find lots of other uses and the same applies to the workshop. Boxes may be lettered Nails, Screws or what you require; index cards may be prepared or gummed labels for boxes and files. And photographers will find them useful for making title slides for projection.

Another method is to use the letters for making personal gifts. For example, you may buy a set of ordinary or coloured pencils and add the name of the recipient; make money boxes, or toys adding the child's own name.

However, sufficient has been said to indicate that almost every model maker and handicraft worker can use this form of lettering to great advantage, enabling him to ensure a really professional job.

The letters are received ready prepared on a special sheet of paper which has a protective backing sheet. The latter is coated so that it will not remove the letters and after use this sheet must be replaced. Capital letters, small letters, numbers and grammatical signs are all included.

A guide line is also printed on the type sheet to ensure perfect register as each letter is added to make a word but the method of printing is simplicity itself. For clarity we will assume that you are adding a title to the back of a book cover. Rule a faint pencil line to act as a guide and after careful measuring start with the middle letter in the centre noting that the guide line on your typesheet is in

A B C D E F G H I J K L M N
O P Q R S T U V W X Y Z ..

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Peter 1 2 3

NAILS SCREWS

register with the pencil guide line. To finish a title all you have to do is to add the letters at either side, remembering to keep the guide lines in register.

The letters are transferred to the paper merely by applying light pressure to the back of the typesheet — a very soft pencil or the rounded end of a pen holder will be sufficient. When the letter has been so rubbed the typesheet is carefully peeled away and the procedure repeated. Note that we now place the *backing sheet* over the letters and give a further rub to ensure perfect adhesion. If you make a mistake the letters can be removed with a penknife before sealing or it is possible to remove them with an eraser. Should you wish to use the lettering for outside work where it will be exposed to the weather, or on tinware



EARLIEST with
the LATEST

RACING

WITH 'TORTOISES'

TORTOISES have been famous as racers ever since Aesop wrote his fable about the tortoise who ran against and beat a hare. In more recent times a Paris night club has been the scene of live tortoise races 'run' for the pleasure of wealthy patrons who gambled on the results.

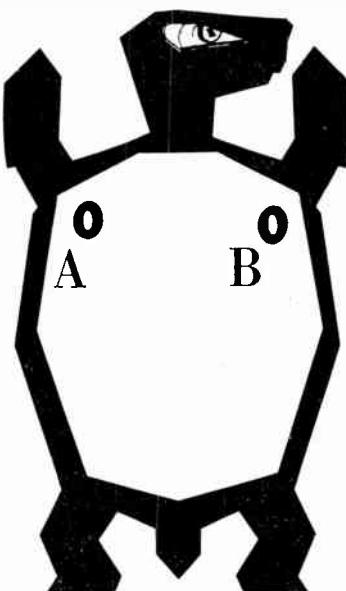
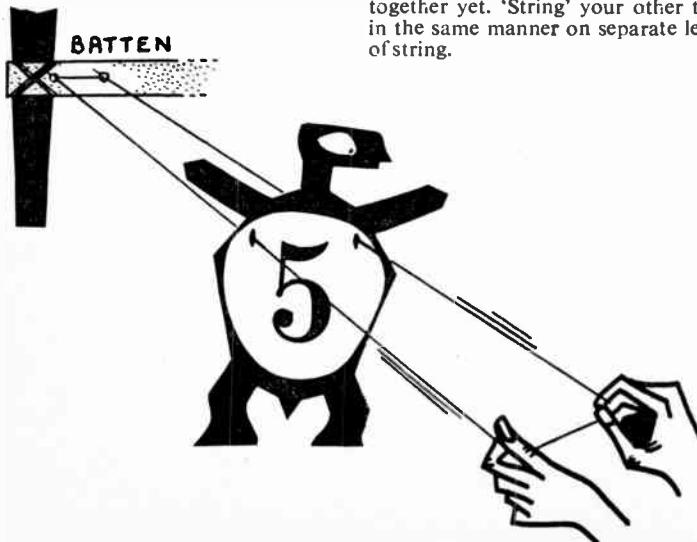
We are going to make a troupe of turtles — bigger relatives of the familiar pet tortoise — and these we are going to race along strings stretched across the floor.

By A. E. Ward

Three or four one foot high turtles should be enough to begin with and you can make them up in stout cardboard or thin plywood as you wish.

To begin with cut out a full size paper template roughly along the lines suggested by the illustration. It may help you to obtain a symmetrical outline if you first fold the paper in half and then cut out one side of the turtle to one side of the crease.

Trace the template as many times as you please upon cardboard or plywood and then cut out all the turtles, using scissors — or a fretsaw. Holes must be bored to take strings at points (A) and (B) in the chests of the figures.



Paint the turtles dark green on their backs, heads, limbs and tails, and paint the fronts bright yellow. Also paint on large eyes and appropriate numbers.

Before a turtle is ready for 'running' it must be threaded upon a ten foot loop of string. Take a twenty foot string and thread the ends through holes (A) and (B) on the turtle. Do not tie the ends together yet. 'String' your other turtles in the same manner on separate lengths of string.

You will next need a five foot wooden batten into which you must insert equidistantly spaced pairs of eyelet screws. The distance between the screws in each pair should be the same as the distance between (A) and (B).

Fix the batten, chest high to the turtles, by tying securely between two table legs at one end of the room. Now complete the various loops by joining the ends of the strings after passing them through adjacent eyelets.

Your turtles will naturally face 'down the room', away from the table. Slide a turtle back along its loop to the batten, in preparation for a trial run. Hold the ends of the loop like a pair of reins.

Hold the 'reins' steady whilst letting the feet of your turtle rest upon the floor. It will be possible to let your racer scuffle along the ground if you hold the reins low so that the turtle will lean slightly forward. Merely pull alternately on the side strings of the loop.

When you have become well practised at racing your turtle, you can instruct your friends in the art of making the figures move and then challenge them to a series of races.

● **Continued from page 10**

Lettering for all

which will be washed, it is advisable to apply a coat of special varnish.

When applying the letters to glass, as in the case of projection slides, you will find it best to place the glass on top of a piece of paper ruled with guide lines.

You may find it an advantage to cut the typesheets into sections for ease of working but remember to leave the printed guide line and in order to keep your working surface clean we suggest that the backing sheet is laid over the lower portion.

Letraset Instant Lettering will be helpful in numerous instances. It affixes perfectly to wood, paper, cardboard, glass, metal, film and on any smooth surface yet leaves no trace of any adhesive. It is speedy to use but inexpensive and it is almost dry as soon as transferred. If you have a lettering job to do this method will undoubtedly assist, especially with showcards or posters. The distributors are W. Heffer & Sons, Ltd., Stationers, 18-19 Sidney Street, Cambridge.

Getting an extra enlargement

SOMETIMES in the darkroom you wish to enlarge the whole or some special part of a negative to a greater amount than the normal lens to baseboard distance will allow, even with your enlarger head right at the top of its column.

The usual way to deal with these special cases is to swing the enlarger head through 180° on its column, ignore the baseboard easel and project either

By E. G. Gaze

on to the floor or a platform made up lower than the level of the normal baseboard. But this is not always convenient. Some enlarger heads don't turn right around on their columns, perhaps the floor isn't dead level and the enlarger needs packing beneath to maintain parallelism between lens and projected image. Often careful focusing of the image is difficult even with a focusing aid—the extra distance involved cuts down light transmission and gives a dull image and one has to fiddle with lens focusing adjustment a long way above the image. Besides you may not want to go to all this trouble just to get a little extra enlargement of the image.

No extra cost

There is an easy way in which you can get a worthwhile increase of enlargement for any given position of the enlarger head on its column, and

quite likely without extra cost, if you already have a close-up supplementary lens for your camera.

If you use a supplementary lens you'll know it shortens the focal length of the lens, so allowing you to focus on objects much closer to the camera than usual. The same supplementary lens if used on your enlarger lens will reduce its focal length, and the effect is to project a larger image on the baseboard. It is a useful dodge, but it has limitations, of course.

The essential thing in thus shortening the focal length of the enlarger lens is to be able to move the lens assembly closer to the negative to re-focus the increased enlargement. In other words, when your enlarger head is right at the top of the column and you wish to increase the effective size of enlargement from that position you must still have free focusing movement available in the lens bellows or slide towards the negative. Most enlargers do have this extra 'play' in the lens focusing assembly even when the head is at the top of the column.

The focal length of your enlarger condensers (unless your enlarger uses a diffusion plate instead) is matched to the normal focal length of lens used. Thus, if you use a dual purpose enlarger (say both 2½ sq and 35mm) you probably have to change condensers when you change the lens for one of different focal length to suit the size of negative being enlarged. Correct focal length matching between lens and condensers ensures even illumination of the negative.

However, the slight shortening of focal length caused by adding a moderate

power supplementary (say of +1 dioptre) will not be likely to cause trouble with uneven illumination. Check with your own enlarger.

The supplementary must fit squarely on, and as close to the enlarger lens as possible. The obvious thing is to attach it in a filter mount just as you normally attach it to your camera lens. If the rim diameter of your enlarger lens is different (it's likely to be slightly smaller) then some adjustment of the mount may be necessary (if slack, use tape).

Use of such a supplementary may soften definition a little. As you are adding an extra glass/air surface to the lens some slight increase in exposure may be necessary. Make sure the supplementary is clean, to minimise any effect on definition and light transmission.

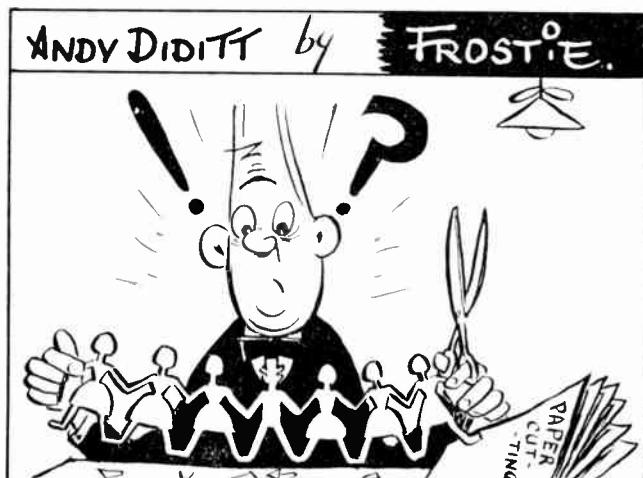
On the point of light transmission there is one precaution which is often overlooked in using the enlarger—cleanliness of the condensers.

Keep clean

If the enlarger is used only occasionally the condensers often become coated with a film of dust particles and there may be mottling of the glass through patches of 'blooming'. Though not enough to cause spots on the print this accumulation of fine dust or bloom can cause considerable light scatter through the enlarging lens, and light scatter causes some diffusion of the projected image, a lowering of contrast and degradation of the image.

If your enlarging lens and condensers are perfectly clean then you are certain you're getting the best possible contrast in the print. If the image is degraded through light scatter then not only is contrast reduced but the effect is a loss of definition through light spread in the image. Often lack of the best definition and contrast in the print is due simply to dirty condensers.

In photography cleanliness is essential: cleanliness of the camera lens, inside the camera, in processing, in enlarging. An unsuspected cause of poor print quality (in contrast and definition of the print) from a good negative is often dirty condensers in the enlarger. Check them regularly.



ELECTRICAL EQUIPMENT for the Hobbyist

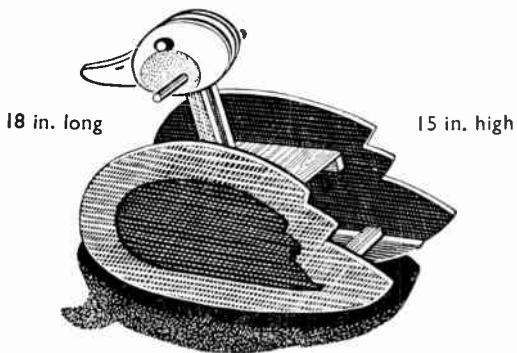
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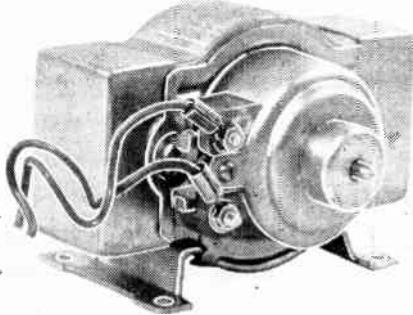


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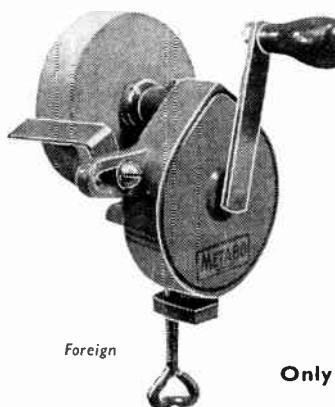
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Note: Illustrations shown here are slightly smaller than full scale.

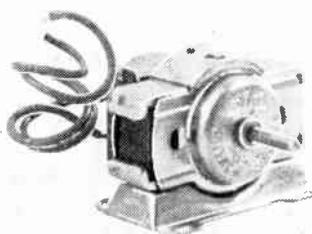
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3	1½-4½	2½ oz.	7/10	6d.
4	3-6	5 oz.	15/8	9d.
5	4½-10	11 oz.	31/4	1/-



HOUSTON WELLS

FROM tree-feller, merchant sea-man and bulldozer driver, to country and western singer and night club attraction. That in a nutshell is the career to date of handsome Houston Wells.

Born Andrew Smith in Northumberland, Houston always had a secret ambition to go into show business, but it wasn't till he emigrated to Canada in 1957 that he began to realize his ambition.

After leaving school Houston went to the timber business, and worked for quite a while as a sawyer in Middlesex. Then for three years he went back to the north to work with the Forestry Commission as a tree-feller. It was after that, that Houston decided it was time he saw a bit of the world.

A short spell as a steward in the

Merchant Navy had whetted his appetite for travel, so he packed his bags, and headed for Detroit. For a month or so he lived with some of his relatives before moving on to Vancouver, where he got a job in a pulp mill operating power machines.

When he first arrived in Vancouver with a friend from England, Houston must have been looking rather lost and dejected, for when seeing them on arrival, a customs official asked them if they would like to go to a club, as they didn't know anyone.

And that invitation marked the beginning of Houston's singing career. He was invited to get up and sing a song, and so enthusiastic was the response that the club owner asked him if he would come back and sing with the regular band.

This roused Houston's musical interest even more, and he immediately started taking singing lessons, and after a hard day's work in the pulp mill would travel up to ski lodges in the



nearby mountains, and sing to British immigrants who were staying there.

In late 1958, just when things were going from good to better, Houston had a message from home saying that his parents were in bad health, and would he return. He came back on the liner *Corinthia*, and on the trip was in great demand to sing at ship's concerts.

On getting back to England Houston took a job near home, driving bulldozers and scrapers on an opencast mining site in Newcastle — singing at local clubs in the evenings when he got the chance.

Then in 1959 the Smith family moved to Wickford, Essex, and with them went Houston, who took a job tunnel mining in London. Quite often Houston would spend an evening out at a Wickford hotel, and it was there just over a year ago that he met and heard an instrumental group called *The Coasters*.

They heard him sing, and asked him if he would become their regular singer on engagements. He accepted, and they became Andy Smith and *The Coasters*.

They became a local attraction in the area, and this year they decided to try for the 'big time'. The group made a tape, and brought it up to music publisher and manager, Terry McGrath, who was so impressed, that he contacted independent A and R man Joe Meek, who recorded the boys the next day — this time as Houston Wells and the Marksmen.

Personally speaking, Houston Wells has fair hair, blue eyes, is 5 ft. 11 in., weighs 136 lb., and likes shooting whenever he has the time. He is a great fan of Hank Locklin and Jim Reeves.

On Parlophone 45-R.4955, Houston Wells made his disc debut with *This Song Is Just For You*, backed by *Paradise*.

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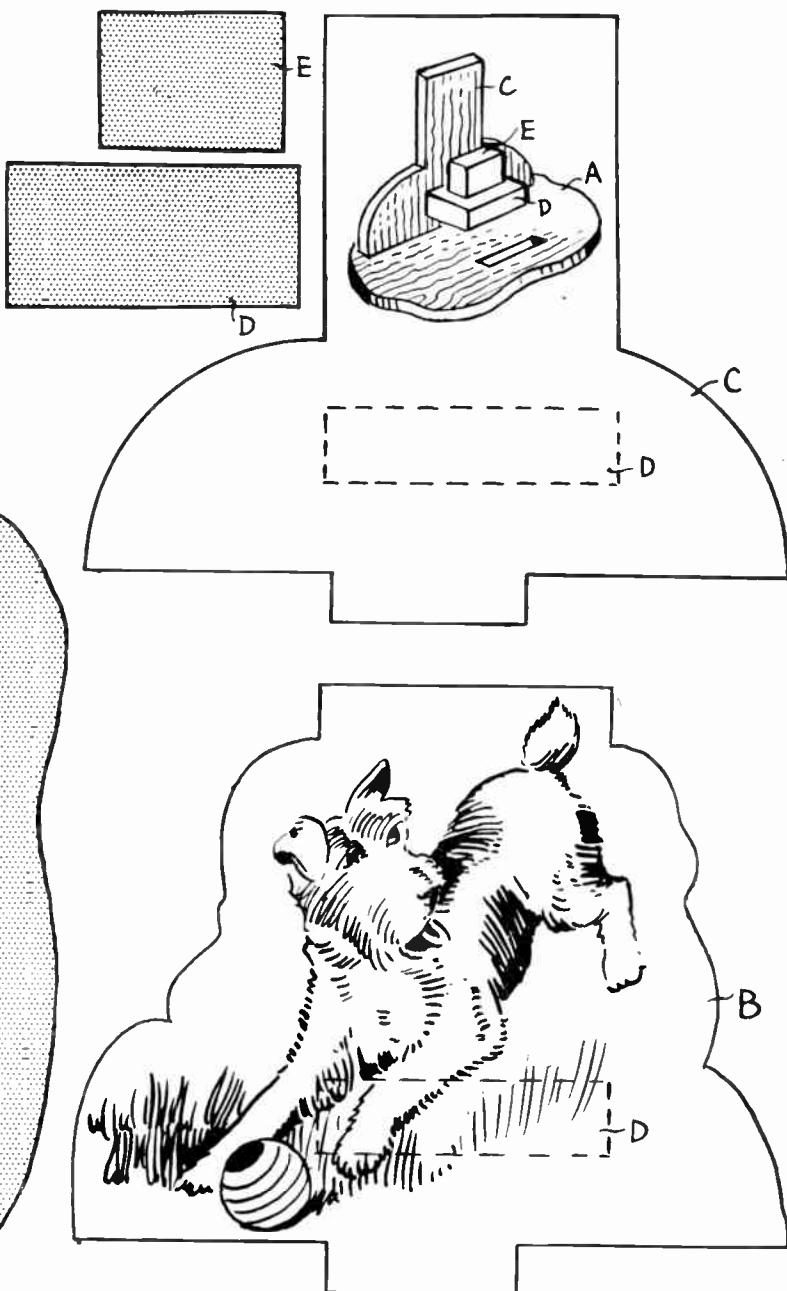
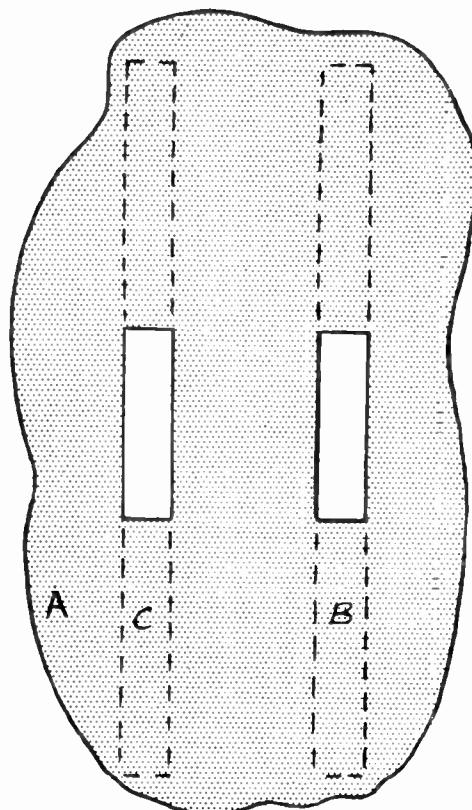
FREE — Interested in Marquetry? A special leaflet 'Making Pictures in Wood' by the fret-saw method is free for the asking. Send to HOBBIES LTD, DEREHAM, NORFOLK.

If you have taken a lot of care in making a musical box, be sure to make it worthy by including the best Swiss movement — a REUGE. Prices from 14/-9. Wide range includes a charming Dancing Ballerina. Many tunes to choose from. Send for details in freebooklet 'Profitable Leisure'. HOBBIES LTD, (Dept. 99), DEREHAM, NORFOLK.

MATCH-BOX HOLDER

CUT one each of pieces A, B and C from $\frac{1}{2}$ in. fretwood, one of D from $\frac{3}{8}$ in. and one of E from $\frac{1}{2}$ in. Piece E is glued centrally on piece D, which is then glued between C and B. Glue the tenons on C and B into the base A.

The decoration is a No. 120 Decorette transfer which is put in position after painting the wood. The transfer, consisting of seven dogs on a sheet, cost 2s. 3d. (postage 3d.) from Hobbies Ltd, Dereham, Norfolk or from any branch or stockist. (M.p.)



Plans to make your own Craft

Much of the cost for a professionally built boat is for time. As this costs the amateur nothing he can, solely for the price of the materials used, achieve first-class results if he is prepared to be patient and careful. The plans of the craft specified below are by the expert, P. W. Blandford and provide all the information you need to build from scratch. Shaped parts are shown full size and there are detailed instructions. Hobbies Ltd, can also supply kits for the canoes PKB10 and 20 and for the Runabout 'Zip'. Send for details. A list of firms supplying materials and kits is provided with each plan.

CANOES (Rigid fabric-covered)

PKB10. The shortest satisfactory canoe, carrying a man and camping kit. Very economical in size and building costs. Suitable for most waters, 11 ft. long, 28 in. beam, 48 in. cockpit, draught 5 in. Normal maximum load 300 lb. Price 11/-

PKB14. Roomy single for the big man or a two-seater for an adult and child or two young people. A popular tourer, but only room for lightweight gear when used as a two-seater. Has crossed Channel as a single-seater. 14 ft. long, 29 in. beam, 76 in. cockpit, draught 5 in. Normal maximum load 500 lb. Price 12/6

PKB15. Fast touring single-seater, suitable for rapid rivers and the open sea in capable hands. Safe and stable. The adult enthusiast's canoe. Many Channel crossings. 14 ft. 6 in. long, 26 in. beam, 48 in. cockpit, draught 4 in. Normal maximum load 400 lb. Price 12/6

PKB20. Very stable and seaworthy two-seater, with sufficient beam to carry an efficient sail plan. Very roomy and popular tourer on most waters, 15 ft. long, 32 in. beam, 7 ft. cockpit, draught 6 in. Normal maximum load 600 lb. Price 12/6

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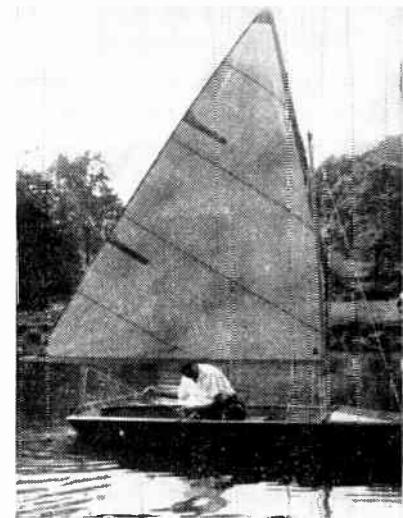
CANOES (Folding)

PKB24. A short single-seater of similar lines to PKB10, but with a longer cockpit. The only canoe which packs into one bag small enough to go on a bus. (42 in x 16 in. diam.), 11 ft. long, 28 in. beam, 55 in. cockpit, draught 4 in. Normal maximum load 300 lb. Price 12/6

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PKB23. A single seater with the same main dimensions as PKB15, but with V-bottom and hard-chine section. Roomy and stable, may be left afloat. 14 ft. 6 in. long, 26 in. beam, 48 in. cockpit, draught 4 in. Normal maximum load 400 lb. Price 12/6



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DINGHIES

WENSUM. A fast 11 ft. sailing dinghy, suitable for general touring and family sailing as well as racing. Construction is double-chine, built upside-down on frames with a plywood skin. The rig is a sloop, with gunter mainsail. Length 11 ft. 0 in., beam 4 ft. 8 in., sail area 66 sq ft.. Draught hull only, about 6 in. or with centreboard down, about 30 in. Weight complete about 220 lb. Rowing positions for two oarsmen and will take an outboard motor of up to 4 h.p. Price 16/-

GOBLIN. Plywood pram dinghy, light enough to be easily lifted on to the roof of a car, yet able to carry two or three adults, and with a sailing performance that makes it suitable as an economy class single-handed racer. Length 9 ft. 10 in., beam 4 ft. 6 in., weight 120 lb. complete, sail area 52 sq ft. Construction easy and quick. Good foredeck, and buoyancy is built in under side benches. Price 16/-

GREMLIN. A 7 ft. by 46 in. plywood pram dinghy of special form. This is the longest hull that can be got out of standard sheets of marine plywood. Fitted with rudder, dagger board and gunter rig. For its size it gives excellent performance under sail, oars and outboard motor. Price 14/-

PETE. A 6 ft. 0 in. by 44 in. flat bottomed pram dinghy. The cheapest and simplest practical boat, intended to be built from one 8 ft. x 4 ft. sheet of hardboard and the minimum amount of wood. Will carry two adults or one adult and two children. Popular as a single-handed angler's boat. May be carried or lifted single-handed on to a car roof. With sail it makes an excellent children's playboat. Price 10/-

ZIP RUNABOUT. Length 7 ft. 8½ in., beam 2 ft 10½ in., weight 80 lb. Skinned with oil-tempered hardboard and suitable for a small h.p. outboard engine. Will carry an adult and one or two children. Price 16/6 'ZIP' is Hobbies Ltd design.

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HOBBIES, DEREHAM, NORFOLK

HOBBIES

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17th APRIL 1963

VOL. 136

NUMBER 3514

Instructions for making a working model

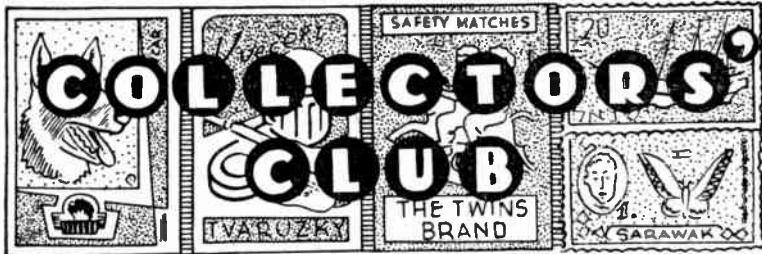


THE 'KISS OF LIFE'

FOR CRAFTSMEN OF ALL AGES

6^D





ONE of the most popular subjects among viewcard collectors is 'transportation'. This is a very broad subject which permits of a great deal of specialization. To be sure there are many who collect all types of transportation views but others specialize in one or two of its divisions.

TRANSPORT ON POSTCARDS

Among the more popular general divisions are aviation, trolleys, railways, private cars, ships, horse-drawn vehicles, etc. Most of these classifications can be broken down still further and many collectors are interested in just one division of one of the general groups. For instance, in the aviation group one might collect balloons, planes, or airports. In the railway group you might collect passenger trains, goods locomotives, stations or tracks. Some even specialize in railway bridges. In the classification of 'ships' there are such specific groups as battleships, ocean liners, lake and river steamers, paddle boats, and sailing vessels.

The aviation group has a great many followers and this is quite understandable, for the greater part of the development of this mode of transportation has taken place during the period when

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to the development of many countries, particularly America where many railroad men, now retired, collect railroad postcards and they are fairly well organized. There a real dyed-in-the-wool railroad man thinks nothing of travelling 50 or 100 miles to visit another fan in order to buy, sell or trade material. These collectors in many cases have a big advantage over the rest of us as many of them hold passes which permit them to



A postcard by Valentines showing an Irish jaunting car.

postcards were being made. It is possible to accumulate cards showing almost every major development in this sphere. Furthermore, the wide interest in this field is partly due to the fact that no other form of transportation has changed so rapidly and drastically in the short period of its existence.

The subject of railways has always been a fascinating one to the average collector and rightly so, as it has been one of the greatest single factors contributing

travel free on various railroads and so they can get around at less expense than others can.

Among foreign cards we can find many interesting subjects not seen in our country. Among these are views of the camel caravans of the East, and rickshaws of China and Japan, the canal boats of Venice, the elephants used both for transportation and freight, the picturesque carts of various countries and many others too numerous to mention.



'Road Safety' is the theme of these Russian match labels.

Useful at party time

A SET OF FOLDING SNACK TABLES

MADE to fold flat and store away in a small space, this snack table is extremely useful for teenage parties or garden picnics. Three or four tables will take up very little room when folded and can be brought out and opened up in a trice. As will be seen from the diagrams, the top folds in half, and is constructed so that no bolts or stays are required.

The side view and front view shown in Fig. 1 give the main measurements for a table 22 in. high. This height is most suitable for use beside the armchair when viewing television. The overall height for use as a picnic table can be between 28 in. and 34 in. The legs for a 30 in. high table will be approximately

32½ in. long, and will be pivoted 15½ in. from the top.

Commence by making the table top, using $\frac{1}{2}$ in. plywood and $\frac{3}{4}$ in. square stripwood. The construction is clearly shown in Figs. 2 and 3, the battens being glued securely in place. The corners of the top and the ends of the battens are rounded and the battens are set in from the ends to the measurements indicated. Complete the top as in Fig. 3 hinging the two halves together with heavy butt hinges.

The legs are cut from $\frac{3}{4}$ in. square stripwood, tapered toward the lower end to $\frac{1}{2}$ in. as shown in Fig. 4. The ends are nicely rounded and pivot holes

● Continued on page 30

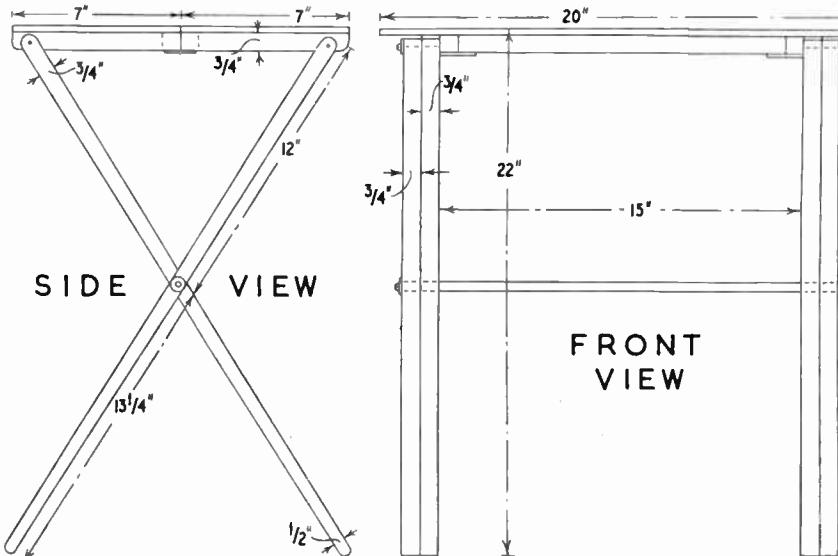


Fig. 1

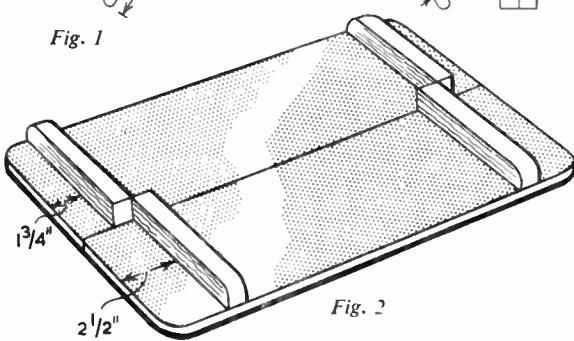


Fig. 2

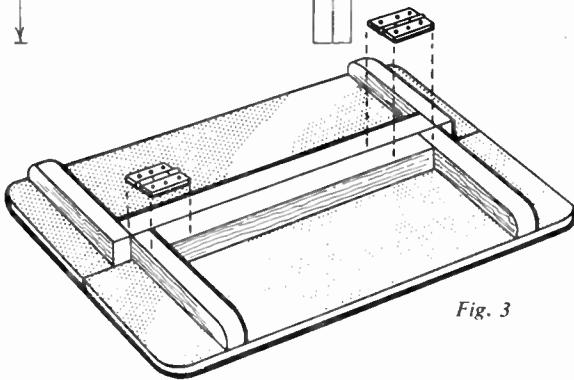


Fig. 3

A 'KISS-OF-LIFE' MODEL

THE mouth-to-mouth method of artificial respiration is definitely the most efficient for use in first aid, giving 120-130 per cent of normal chest inflation, as compared with 60-75 per cent given by the Holger-Nielson method and 45-50 per cent given by Schaffer. Furthermore it is an easy method to learn and to apply and it can still be used when chest injuries are present. The 'Kiss of Life,' as it is called, has had some remarkable successes since its adoption and is now in general use in medical and first aid circles.

By J. M. Twilley

Unfortunately it is a difficult method to demonstrate and to practise for aesthetic and hygienic reasons. Also, however willing the 'patient' may be, it is almost impossible for a conscious subject to relax the throat completely. This means that the 'patient' has to make a definite inspiration when the 'rescuer' attempts to breathe into him, which does not give the rescuer the same sensations as are obtained when inflating the chest of an unconscious victim.

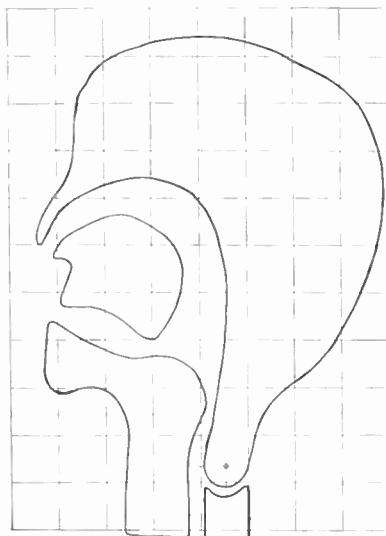
The model described here allows practice to be obtained easily and gives a good simulation of an unconscious person. It also allows the instructor to

demonstrate why it is essential to lift the lower jaw and to press the forehead back in order to clear the passage through the throat.

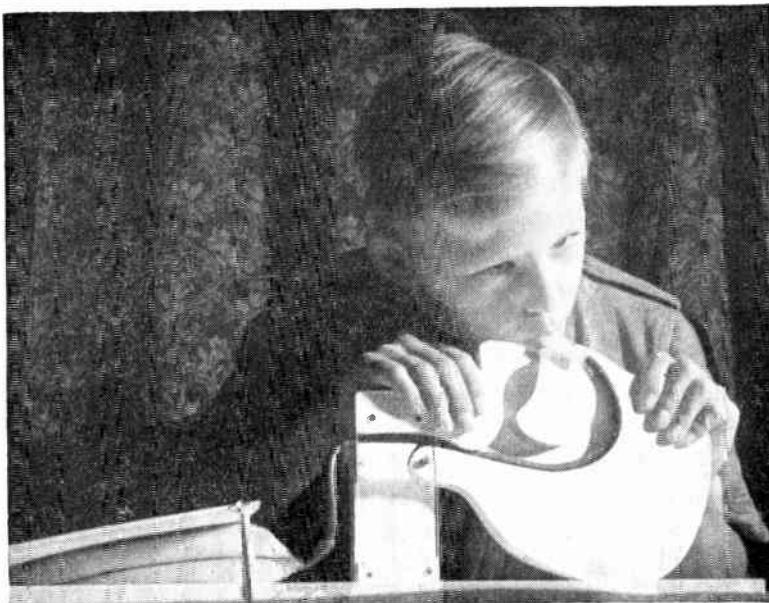
The model consists of a cut-out section of the human head connected to an artificial lung mounted on a baseboard. The head section is made in two pieces, one of which, the lower jaw, is fixed, whilst the other, the remainder of the head, is pivoted and free to have limited movement. The upper section of the head is spring-loaded, so that if the forehead is not pressed down, the throat passage closes up, this simulating the falling back into the throat of the root of the tongue in an unconscious person.

Artificial lung

A rubber tube passes from a mouthpiece fitted into the nostrils, via the throat to an artificial 'lung' and 'chest cavity' mounted on the baseboard. The 'lung' is a football bladder, which is fitted beneath a flap of hardboard which forms the 'chest cavity'. This flap is hinged at one end and pulled down at the other by means of two loops of elastic. This causes a definite effort to be required in order to inflate the 'lung', and when the rescuer removes his mouth the 'lung' automatically deflates just as in the case of a real patient.



Section of the head—enlarge squares to 1 in.



The shape of the two pieces forming the head section is shown in the diagram which should be drawn over 1 in. squares. Transfer this drawing to a piece of wood about $\frac{1}{8}$ in. thick.

Cut out, using a fretsaw or a coping saw, and sand smooth. Cut a piece of hardboard to the same shape to act as a backplate for the upper section of the head. Cut a piece of wood $\frac{3}{8}$ in. by $2\frac{1}{2}$ in. by 6 in. for the supporting column and a small piece about $\frac{3}{8}$ in. by $2\frac{1}{2}$ in. by 1 in. to act as a spacer at the bottom of the upright.

It is essential that the spacing piece is the same thickness as that used for the head. A piece of transparent plastic, such as 'Perspex' is required for the front of the support.

Assemble the column with the lower jaw at the top. Assemble the remainder of the head on to the backplate and pin into place. Trim the backplate away at the neck so that the head can be fitted on to the lower jaw section in the correct position, and has freedom to pivot about a bolt through the projecting piece on the upper head. The photograph will make the method of assembly clear.

The baseboard is 10 in. by 24 in. A piece of hardboard 10 in. by 10 in. is attached to one end by a cloth hinge. This forms the artificial chest cavity.

The head section support is screwed into place 11 in. from the other end. Before fixing the upright finally into position, try it on to the baseboard and mark the point of contact between the back of the head and the baseboard. Drill holes into the head and into the base at these points of a suitable size to fit a small compression spring. This spring must be just long enough and just strong enough to close the throat passage on to the rubber tube when the head is released. When satisfied that this is so, screw the head into position,

Throat action

Pass the length of rubber tubing through the constricted portion of the throat. If necessary the width of the channel must be relieved here so that when the forehead is depressed the constriction opens and it is possible to blow through the tube; when the fore-

head is released, the spring should return the head to its original position. This action must close the throat so that it is impossible to blow through the tube.

The mouthpiece can be turned from any convenient plastic if a lathe is available; if not, it could be made by drilling out the hole in a pipe stem. It is essential that the mouthpiece is easily removable so that it can be sterilised for each 'operator'.

The football bladder is positioned underneath the hardboard sheet on the baseboard, and the two elastics fitted so that the bladder has to stretch these in order to push up the cover when it inflates. When the air pressure is removed, provided that the forehead of the model is pressed down, the elastics should pull down the cover and deflate the bladder. The model should be finished in white paint with red for the

internal sections of the nose and throat. In use, the instructor can point out the relative positions of the root of the tongue and the back of the throat in an unconscious person, and can demonstrate the effect of pressing down on the forehead. He should also bring out the point that with a human subject the rescuer should also lift the lower jaw in order to actually be able to push the head back relative to the rest of the body. When the model is used for practice, unless the person attempting to apply artificial respiration to the model actually carries out the correct actions, it will be impossible to inflate the 'chest'. The resistance to inflation offered by the elastics requires the rescuer to use about the same amount of effort as that required to inflate the chest of an unconscious person against the weight of the chest wall and the drag of the relaxed muscles.

THE word 'helicopter' is derived from the Greek words Helix and Pteron which mean, respectively, 'screw' and 'wing'. Leonardo da Vinci made drawings of a flying machine which would rise by literally screwing itself into the air.

A real helicopter leaves the ground when its rotor blades are whirling fast enough to behave like rotating wings. Air is compressed below the blades and made thinner above them, to create a powerful sucking force which lifts the aircraft into the sky.

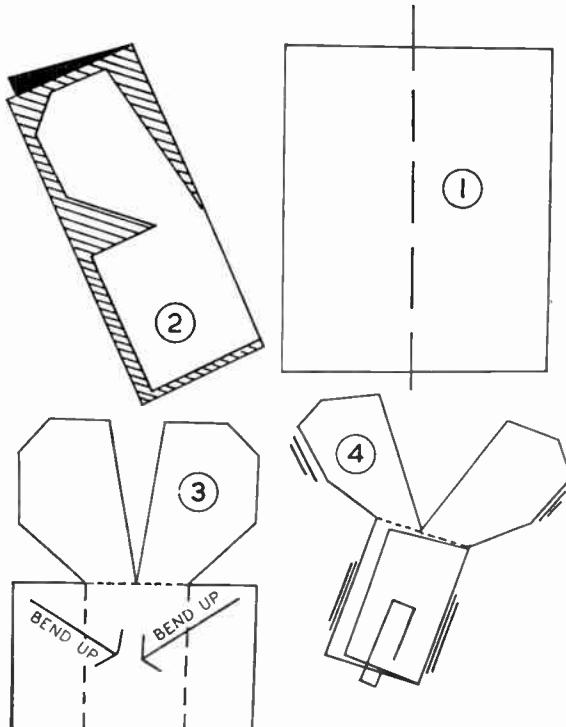
A PAPER HELICOPTER

By A. E. Ward

If the motor should fail when the helicopter is airborne, the machine will fall relatively gently and safely to earth. As gravity pulls the aeroplane downwards, air resistance will keep the rotor wing spinning, so that a certain amount of 'lift' will be achieved to slow down the descent, like a parachute.

Falling seeds of the sycamore tree are slowed down in this manner, because the fruits are shaped like little twisted wing-blades. Thus a sycamore seed may 'hover' in the wind for many a yard before finally settling to rest. A simple mechanical idea therefore helps in the biological principle of seed dispersal.

An elementary toy will help you to understand these notions. Fold a sheet



of notepaper in half (Fig. 1) and cut out the doubled shaped illustrated in Fig. 2, to one side of the crease.

Open out the paper. Bend inwards the side 'flaps' below the pair of 'wings' and secure the triple layers of paper with a wire paper clip, as shown in Figs. 3 and 4. Bend the wings in opposite directions.

To 'fly' the toy, merely toss it into the air. The 'helicopter' will descend quite slowly and steadily with a pleasing spinning action. It may actually spin 'on-end' for a few seconds after the metal clip touches the ground. In a wind, the toy may be swept along and transported over considerable distances.

TV AND VHF AERIALS

THREE is quite a lot of interest in the construction of TV and VHF aerials, and details of these should prove useful. Information on the various types of aerials which are generally used is given here. In a following article, details on the practical construction, etc., will be given, so that aerials of the kinds dealt with may be made.

When signal strength is good, very simple aerials will provide satisfactory reception. Such aerials may prove handy for the occasional use of a receiver in a second room, or for regular use. In some circumstances the aerial can be indoors, or in the roof or loft space. This simplifies construction, because the aerial does not need to resist wind pressure. Nor will it be exposed to weather.

In areas more remote from the transmitter, more complicated aerials are needed, and they will generally have to be outside the house. These more elaborate aerials pick up a stronger signal than the simple aerials.

A good idea of the kinds of aerial which are satisfactory in a given locality can be gained by examining the aerials of neighbouring houses. These can be identified from the following details. The type of receiver also has some bearing on the aerial which will prove to be satisfactory. In strong signal strength areas, less sensitive receivers may be used, compared with fringe areas, where signal strength is low.

Usually, a fairly simple aerial can be tried, then other elements can be added, if needed. A simple aerial, giving reasonably good results, may be considered sufficient when the receiver is occasionally used in a second room, for example. For test purposes, the aerial can be fitted up in a temporary manner.

Hill, 10; St. Hilary, 10; Dover, 10; and Chilerton Down, 11. The number shows the Channel used.

Horizontally polarised transmitters include Divis, 1; Rosemarkie, 2; Londonderry, 2; Norwich, 3; Blaen-Plwyf, 3; Meldrum, 4; Les Platons, 4; Sandale, 4; Folkestone, 4; Pontop Pike, 5; Burnhope, 8; Black Mountain, 9; and Mendlesham, 11.

By 'Radio Mech'

On the other hand, if an aerial is made up which is of the same type as other aerials in the district, then reception should be good at once.

Polarisation

The transmitted signal may be vertically polarised, or horizontally polarised, and the aerial must be vertical, or horizontal, to suit.

The polarisation used can be seen at once by observing neighbouring aerials. E.g., if the elements of these are vertical, the aerial being constructed should be erected with elements vertical.

Stations using vertical polarisation include Crystal Palace, 1; Wick, 1; Holme Moss, 2; North Hessary Tor, 2; White Hawk Hill, 2; Dover, 2; Kirk o' Shotts, 3; Rowridge, 3; Sutton Coldfield, 4; Wenvoe, 5; Orkney, 5; Peterborough, 5; Lichfield, 8; Croydon, 9; Winter Hill, 9; Emley Moor, 10; Black

Directive

Simple aerials are not directive, but pick up signals from any direction. These are suitable in high signal strength areas.

More elaborate aerials give increased reception of signals in one direction, and reduced pick up from other directions. These are very much employed.

The directive properties of the aerial can be made use of in two ways: (a) the aerial may be rotated for best possible reception of the required station, (b) it may be turned to give minimum pick up of some kind of interference, such as that from a main road, or the reflection from a large building, etc., which may cause secondary images on the screen.

The exact bearing of the aerial is generally not very critical, except when signals are weak. The usual method is for one person to turn the aerial, while a second person observes the picture and listens to reception. In this way, the best direction can easily be found.

When signal strength is reasonably good, aerials are often put up by observing the direction of other aerials or by estimating the direction from a map.

Aerial Types

The simplest aerial is the dipole A in Fig. 1. This is two conductors or elements, insulated from each other at the centre. A twin feeder, or co-axial feeder, is taken from the inner ends of the elements.

The dipole has to be approximately one-half wavelength long, so the actual length is chosen to suit the station being received. Sound and vision signals are on slightly different frequencies, so the aerial is generally some intermediate length, to suit both. Small changes in length do not much influence efficiency. But signal pick up begins to fall off if the element length is too much in error.

The dipole A is not directive. It can be sufficient in favoured localities up to 20 miles range or so.

Aerial B has a second element, shorter than the dipole element. This is termed a director. This aerial is directive, and

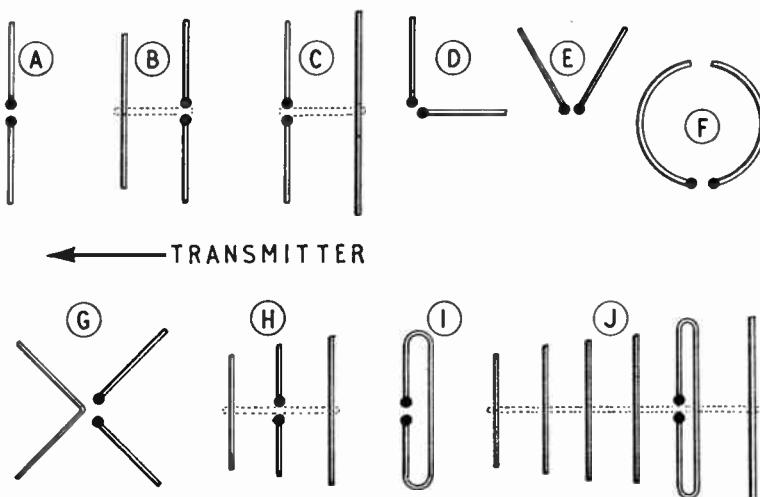


Fig. 1—Popular types of TV and VHF aerials

gives much better signal strength than the dipole A.

Aerial C has an element longer than the dipole, termed a reflector. Most popular H aerials are of this kind. The aerial is directive, and signal strength is better than with the dipole A.

Aerial D is the dipole A with one element horizontal. This may be handy indoors, or when space is limited. The whole aerial may be tilted, so that each element is at about 45 degrees (e.g., like one half on the X aerial G). Aerial E is also a modified dipole, and sometimes consists of plated rods on a small stand, so that the aerial can be placed in the room. Aerial F is a further 2-element type, in which the rods are bent to form a circle.

Aerials such as D, E and F have the advantage of reduced size, and are sometimes made with sliding elements, so that the length can be adjusted as required.

Aerial G is virtually the same as aerial B, except that the director and dipole elements are sloped, so that the whole can be mounted on a single central block. Signal pick up resembles that of aerials B and C. Aerials B, C and G would generally be considered suitable up to 45 miles. If the aerial is high and clear of all obstructions, such aerials often provide sufficient signal strength over even greater distances.

With aerial H, both director and reflector elements have been added to the dipole. This 3-element aerial gives better signal strength than aerials B, C or G, so it is often used at fairly great distances from the transmitter.

When reflector and directors are fitted to an aerial, the aerial impedance is lowered, so that efficient impedance matching of the aerial to the receiver feeder becomes difficult. To help avoid this, the dipole can consist of one length of conductor, with its ends bent over as at aerial I. The feeder is then connected to these ends. This is termed a folded dipole.

When signal strength is poor, the aerial usually has a reflector and several directors, as shown at aerial J. Each director slightly improves reception, and more than four directors can be used. This type of aerial is popular in fringe areas, for those channels which only need short elements. With long elements, the whole aerial tends to become unwieldy.

Connections

With A, the twin feeder goes from the inner ends, as mentioned. With all the other aerials, the twin conductors of the feeder go from the inner ends of the dipole element exactly, as with A. These conductors are insulated from each other, and from metal parts. This means

that the dipole elements have to be supported in some way which allows them to be insulated from each other.

With the folded dipole I, the ends have to be insulated from each other, and other metal parts, despite the fact that the whole element is a single metal tube.

Directors, such as used with aerials B, G, H and J, consist of a single metal tube. If the horizontal boom is of metal, the directors need not be insulated from it. If the boom is of wood, the directors will be insulated to some extent, but this does not matter.

Reflector elements, as used with aerials C, H and J, may also be fitted to a wooden boom, or in contact with a metal boom, as with the directors.

Elements, etc.

The aerials are generally made from aluminium or alloy tubing, which is light and strong. The actual elements are usually of $\frac{3}{8}$ in., $\frac{1}{2}$ in., or similar tubing.

An indoor aerial can be made from much less strong materials than one which will be in an outside, exposed location. For outdoor aerials with short elements, $\frac{1}{8}$ in. tubing is strong enough. Long aerials in exposed positions may be of $\frac{1}{2}$ in. tubing.

The horizontal boom, required for aerials B, C, H and J, is usually some strong alloy, such as Duralumin, and $1\frac{1}{2}$ in. diameter tubing is generally sufficient for aerials B, C and H. This should also do for aerial J, unless many directors are used, and the elements are long.

For home construction, a wooden boom can be used, and is strong enough for small aerials, and particularly B and

C. Wood can be easily drilled and cut. It may be round, square, or rectangular in section, and should be free from knots. Several coats of outdoor varnish will help keep out moisture.

When the elements are of fairly large diameter, the bandwidth of the aerial is increased. That is, the aerial will work over a range of frequencies, so exact measurement is less important. Tubing has this advantage, as well as being self-supporting.

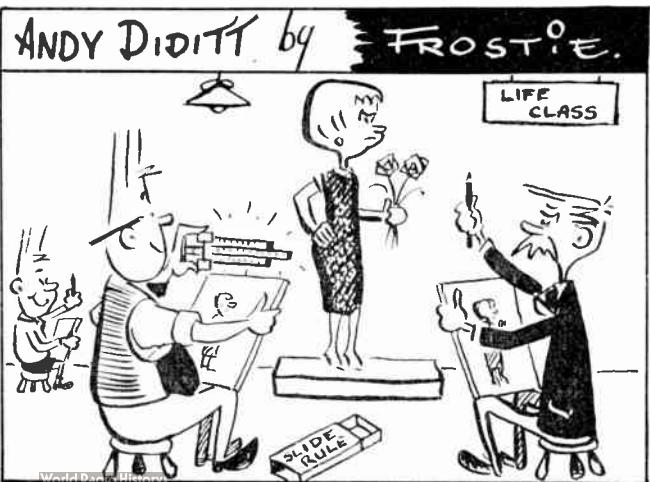
Aerials of small diameter conductors such as wire, have narrow bandwidth so the exact length is important. Wire elements are of course not self-supporting. When signal strength is good permitting an indoor aerial, wire elements are useful. In these circumstances, the elements of aerials A and D, for example, may simply consist of flex which has been untwisted for the required distance the remaining flex forming the twin feeder.

When simple indoor aerials of this kind are possible they should be reasonably clear of doors, etc. or persons moving will interfere with reception. Increased height (as with the aerial in a loft) also increases signal pick up. It is also best to have the aerial away from sources of interference, such as house wiring, mains and telephone lines roads, etc.

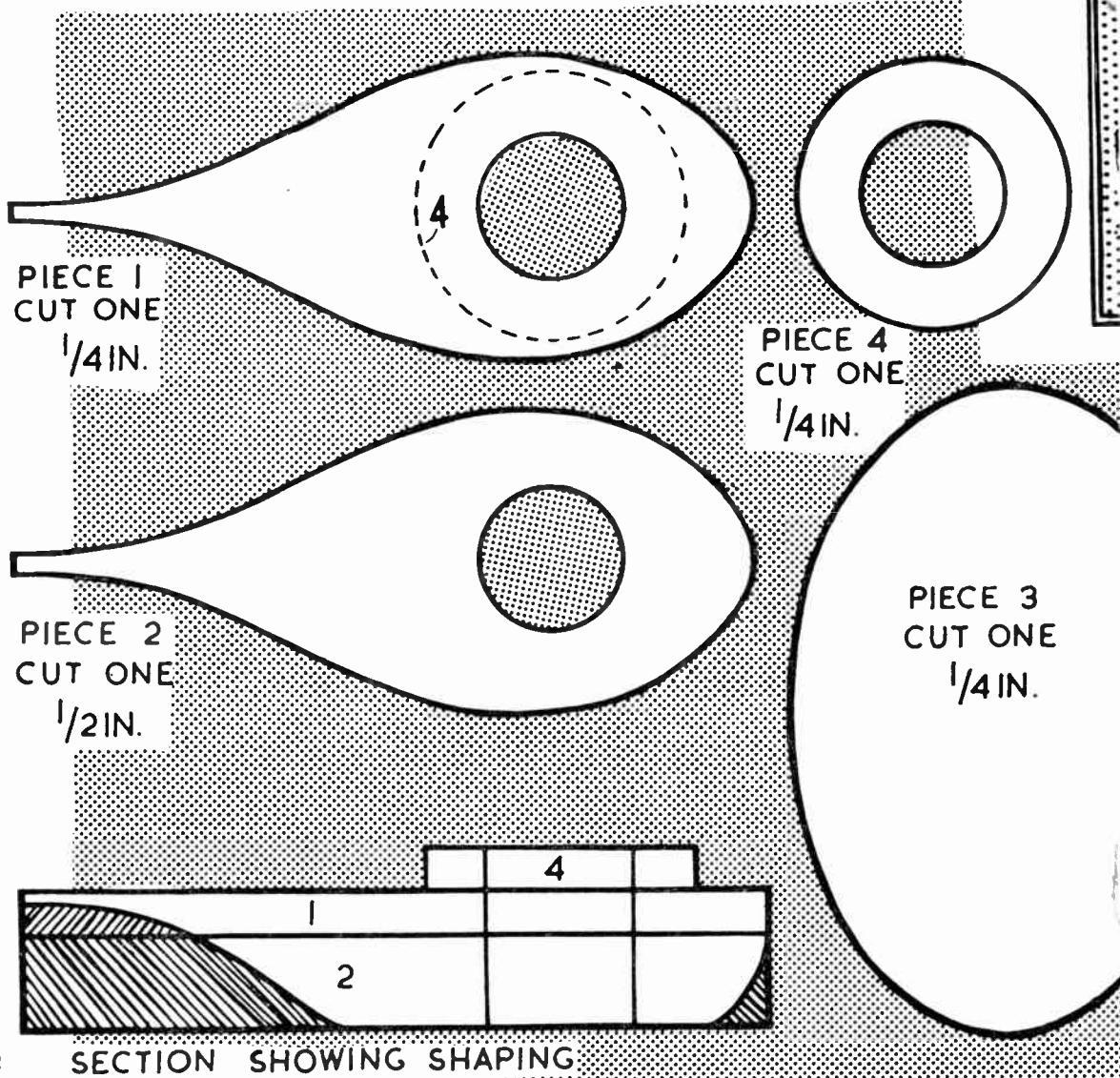
Ready cut elements for particular channels can be obtained, or the elements can be cut from tube obtained locally. The next article will deal with element lengths.

Outdoor aerials are mounted on a mast of $1\frac{1}{2}$ in. to 2 in. dia. tubing, so placed as to obtain reasonable balance. The aerial elements should be clear of chimneys, walls, guttering, etc.

(Next week — Part 2)



ALADDIN'S LAMP WITH DUAL PURPOSE



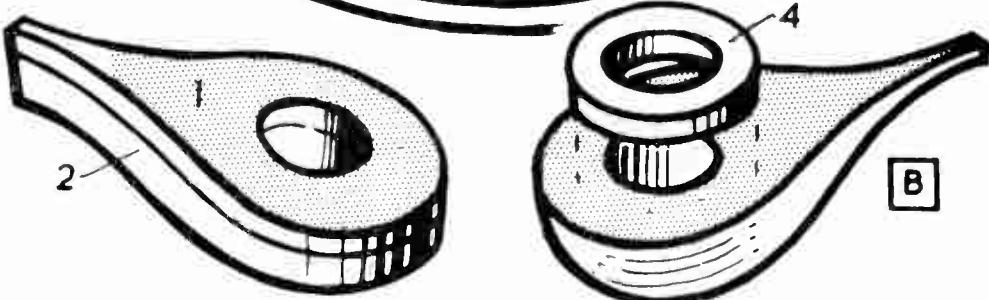
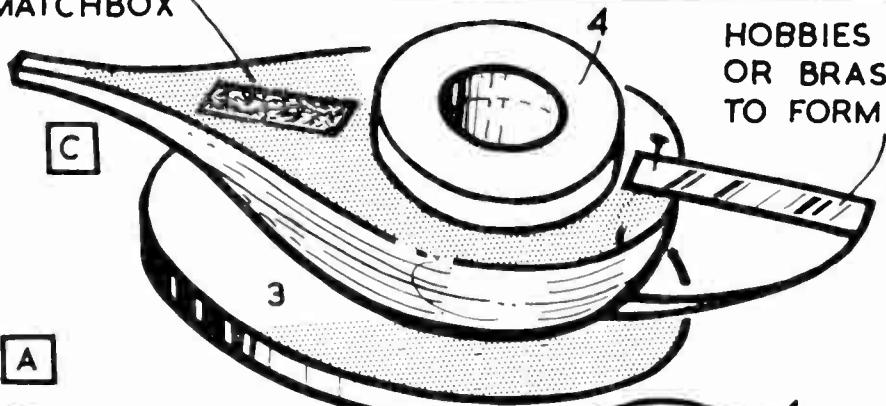
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COLLECTING TREE 'WARTS'

I THINK one might describe them as the varicose veins of a tree. I mean those small globular growths, sometimes not so small at that, found on tree-stems.

My interest in them was first aroused, many years ago, by a quite casual reference, and shortly afterwards I found my first specimen, egg-sized, on a young oak. I have been a collector ever since, and now have specimens from eight different species, including two from a conifer, where they are rarely found.

By James Cowan

The reason for the appearance of these growths is still obscure. After a diligent but fruitless search among all the more likely sources available to a layman, I applied to the Forestry Commission, whose chief research officer, Mr T. R. Peace, generously supplied me with the few relevant references, but assured me that I had selected a difficult field for study. Mr Peace used the term 'spheroblast' for these growths; clearly differentiating them from the usually much larger 'burr's.

A spheroblast is an external parasitic growth, even if it is of the identical substance as the parent tree, and feeds from the tree's sap-flow; a burr is merely an exaggeratedly misshapen part of the contour of the trunk or of a major limb. A spheroblast is usually quite small, my biggest being only 9 in. in diameter; a burr may go much larger, in fact I know of one, which, while it may be a super-spheroblast, is much more likely, with a maximum dimension of 10 ft. to be a burr.

Spheroblasts are very roughly spherical in shape, often with a pronounced neck at the junction with the mother tree

They are covered with bark during life; and any deterioration of this bark cover means that the spheroblast has commenced to decay.

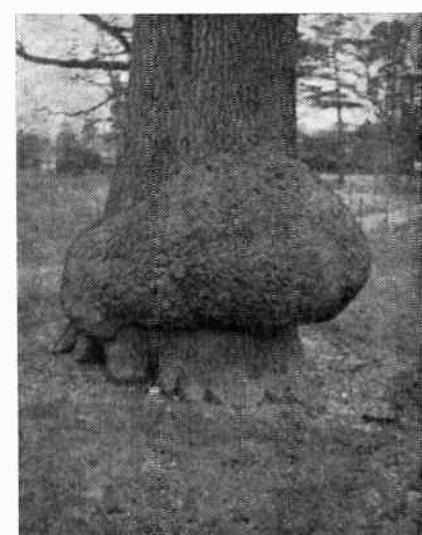
They are found much more usually on hardwoods than conifers — on single-stemmed hardwoods, and more often on those species with thinner and smoother barks. They are sited on the main stem, from ground level up to 10 ft. high, at least in my experience, and on the south face of the stem. The influence of a wide expanse of open country or a wide road surface, both offering avenues for hot, dry air-currents, appears to modify their normal southward aspect.

My theory, admittedly that of an amateur, but of one whose deep interest has led to close observation, is that a contraction, short of bark-cracking, of the bark-mantle of the tree due to drying-out so constricts perfected sap circulation that a condition similar to human varicosity arises. Again, I am treating the word 'varicosity' in an elementary fashion, but, after all, tight stock-suspenders or a tight belt are at least contributory reasons for this condition.

Between the cambial layers that will eventually form either sapwood or bark, the constricted sap-flow is halted. This appears to occur wherever such interruption is probable — above a wound, or at soil level, or where the bark stretches over a bend in the stem; or it may by quite at random. At that focal point a nucleus forms, and around that nucleus the little parasite grows.

Parasite it is; it shows no apparent functional cover of sapwood, and is always separated from the parent tree by a layer of cambium and bast.

It grows slowly, seeming to absorb its scanty nourishment by contact only. Later, if the spheroblast survives to reach a size greater than, say, one inch, the instinct for self-preservation urges it to produce roots, but these are anchor



A gigantic growth specimen on an oak, well over a ton—not for the collection!

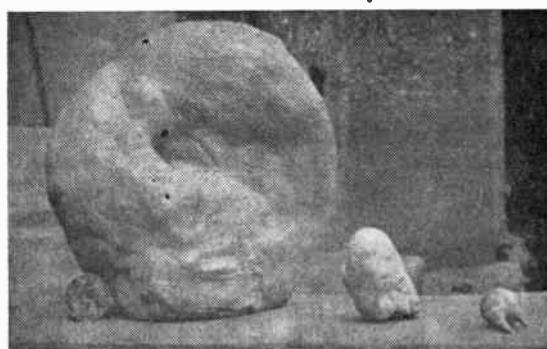
roots only. They bear no resemblance to the normal root system of a plant, but show a great similarity to the roots of a human tooth!

In any event, these roots are only good against stress of weather, since the most valuable means of distinguishing between a burr and a spheroblast is the ease with which the latter can be detached from the tree. A wrench with finger and thumb, or a blow with the fist, will move the spheroblast; the burr is one with the wood of the tree.

Stripped of bark, they are fascinating things. I always do this, by the way, as soon as possible after taking them, while the thin layer of underbark cambium is still moist. They must, by the way, be thoroughly dry before storage in any sort of cover.

In several species, they show, under the bark, a most complicated series, of corrugations like finger-prints, or possibly more like the intricate patterns one sees in illustrations of Maori tattooing. Sycamore, for instance, while generally smoother, gives specimens like wooden pearls, with a sheen that the most skilled treatment of the converted stem would hardly equal.

I have a few recent items in ash before me; lightly printed all over, almost pure white, and with a surface gleam that rivals the silken sycamore. My original oak, still a clean very light brown, shows



My big beech—sawn flat, my first oak, and a hazel



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the deepest prints of all, and another more recent oak is not unlike it.

Holly appears to be a most prolific producer of these growths; a thin bark and bast give it the poorest insulation against heat and drought. Any single-stemmed holly will be found to show — on the south side of the stem, remember — a few live specimens, numerous tiny swellings where the infant growths are beginning, and a number of scars where adults have perished.

Note my stipulation of 'single-stemmed'; any relief of sap-pressure such as the increased area of cambium given by multiple stems, or by the

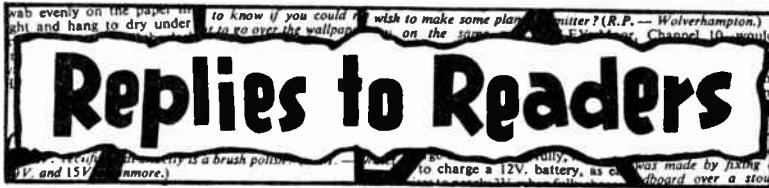
existence of suckers to short-circuit the sap-flow, seems to inhibit the formation of spheroblasts.

Elm, with its known propensity to suckers, seldom seems to form spheroblasts. At a certain stage, and this process is as mysterious as their origin, spheroblasts usually die, decaying from the outside. All my specimens, from oak holly, ash, sycamore, beech, lime and hazel include some showing areas of decay, although my 9 in. beech is perfectly sound.

Occasionally the tree may 'take-over' the spheroblast. Of my only two coniferous specimens, from an Atlas cedar,

one came away cleanly, leaving only a depression in the cambium with a pin-hole socket where a tapering fang had penetrated the sapwood; the other needed much more force, and showed clear signs of uniting with the tree. Then presumably, a burr would have formed, covering the spheroblast within itself.

Recently I have added some tiny specimens of hornbeam to my collection, also some well-shaped items, an inch or so in diameter, from a *Quercus Cerris* — Turkey oak. The smooth grey bark of the oak bore at least a dozen, but several of them had an aged and half-decayed appearance.



Reclaiming Old Files

I HAVE in my workshop a large number of old files, and believe there is a method of reclaiming or sharpening these again by acid treatment. Could you let me know the correct procedure and strength of acid used etc.? (A. D. — Corsham).

OLD files may be re-sharpened by the nitric acid method. In the open air, stir four volumes of concentrated nitric acid into one volume of water. Immerse the files until gas is being evolved briskly, allow to act a short time, remove the files, rinse in water and dry them. Two warnings are advisable: (1) nitric acid is corrosive to the skin; therefore use rubber gloves; any on the skin should be flushed off with water and treated as usual by dabbing with wet sodium bicarbonate. (2) the fumes of both acid and the gas evolved during the sharpening are harmful, so be sure to operate the sharpening in the open air and up-wind.

Concentrated Acids

I HAVE three 10 per cent acids — hydrochloric, nitric, and sulphuric. I would like to know how to concentrate these (90 per cent). (S. H. — Burton-on-Trent).

THE only way to concentrate these 10 per cent acids is by boiling, and only sulphuric acid can be concentrated to 90 per cent by this method. Dealing with them singly:

Hydrochloric — distil until the tem-

perature reaches 110 degrees Centigrade; change the receiver. The acid distilling at this temperature will contain 20 per cent real acid. Further concentration is not possible. 90 per cent solutions of this acid do not exist, the strongest prepared containing 42·9 per cent.

Nitric — distil and collect the fraction coming over at 120 degrees; this contains 68 per cent real acid. Further concentration is not possible thus.

Sulphuric — put 90 c.c. into the distillation vessel and distil off 80 c.c.

The residue in the distillation vessel will contain approximately 90 per cent real acid.

A Brass Lamp

I HAVE an old brass oil lamp which I have converted to electricity. Unfortunately the brass has been lacquered and the lacquer has turned nearly black. Can you tell me how to remove this without damage to the under-surface? (D. — Wrexham).

THE difficulty here is to know the composition of the lacquer. These old lamps were usually coated with shellac lacquer; therefore swab first with methylated spirit. If this fails, try a mixture of 2 vols. meths. to 3 vols. benzene. If this fails too, use a mixture of equal volumes of amyl acetate and acetone.

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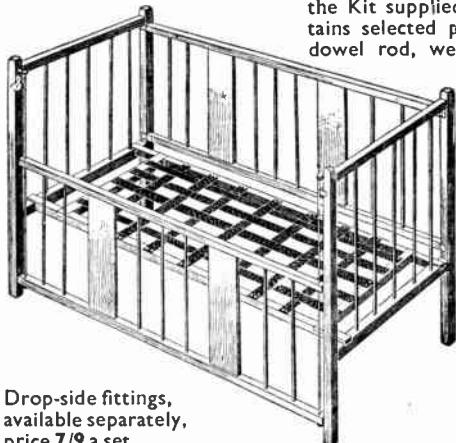
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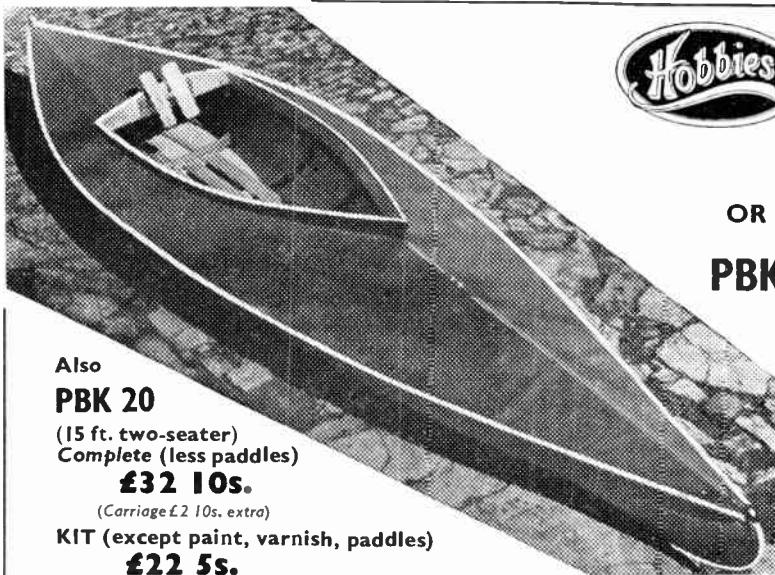
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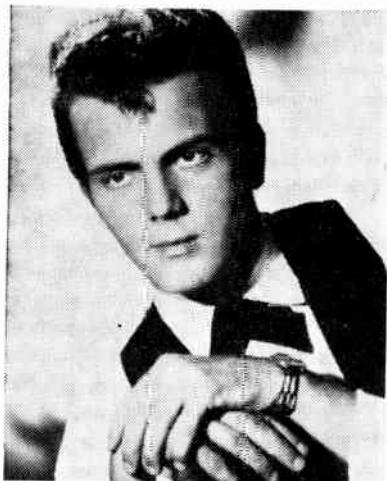


KENNY DINO

IN the small American town of Hicksville, Long Island, U.S.A. Kenny Dino was tops with the youngsters. He had done nothing very big, but they were optimistic, and were determined not to let him give up.

They had heard him sing at dances around town, and many of the hops here and there, and to them he just had to go places. They started fan clubs in Hicksville, and the neighbouring towns — and they talked about him everywhere.

One day Al Dankoff, supervisor of a large bowling chain in Hicksville, asked the boy to sing for him. Dankoff was very impressed. He knew the right people, and began to make inquiries in an effort to get Kenny heard. But before Dankoff could get very far, Kenny was called up into the U.S. Navy.



Two years later, discharged from the Navy, he reminded Dankoff where he had left off. Kenny found a song writer, Steven Schlecks, another young and talented lad from a nearby town who had had a couple of songs published, and was willing to write songs for him.

With the help of the song-writer, they hired the best accompaniment they could obtain, and with the co-operation of Stan Frank, a recording engineer, they did a recording session. *A Little Bit*, and *Just Wait and See* were taped.

A couple of weeks later, Randy Wood, President of Dot Records, and Mickey Addy, the company's director of Eastern operations, heard the record that had been left in their New York office. That was enough. Hicksville's idol was on his way.

Once convinced that this record would not become a hit, Dankoff put Schlecks back to work, writing more songs for Kenny. Finally, he selected *Your Ma Said You Cried In Your Sleep Last Night* and *Dream a Girl*.

Kenny Dino (real name Kenneth Joseph Doino) was born in New York City on 12th February 1942. He has brown eyes, brown hair, is 5 ft. 10 in., and weighs just over 9 stone. His hobbies include commercial art, writing music, horseback riding, hunting, swimming, and bowling. He plays the piano, and his favourite artistes are Frank Sinatra, Johnny Mathis, Keely Smith, Chris Conner, Marlon Brando, and Tony Curtis.

● Continued from page 19

FOLDING SNACK TABLES

drilled in appropriate positions. The centre dowel is $\frac{1}{8}$ in. diameter and serves as a spacer and pivot. The legs are therefore bored $\frac{1}{8}$ in. diameter and the dowel sanded to work freely in the outer legs only. Hold the dowel in place by a round head screw and washer at each end.

The finish

Finish off by giving a coat of clear preservative before painting. Give a good undercoat and allow to dry thoroughly. Lightly rub down with fine glasspaper and apply a finishing coat of high gloss.

The top may be painted if desired, but a more attractive finish can be obtained by using one of the adhesive plastic materials available. These are quite inexpensive and since the back of the material is adhesive it is easy to fix.

(M.h.)

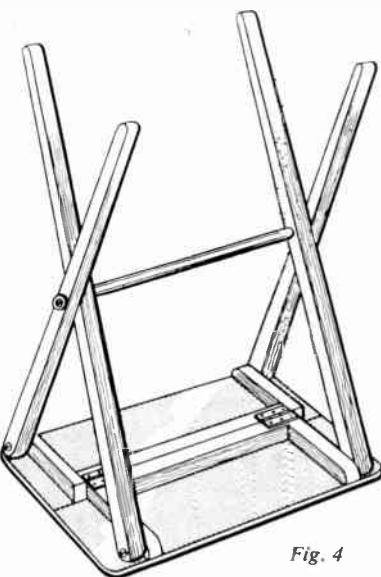


Fig. 4

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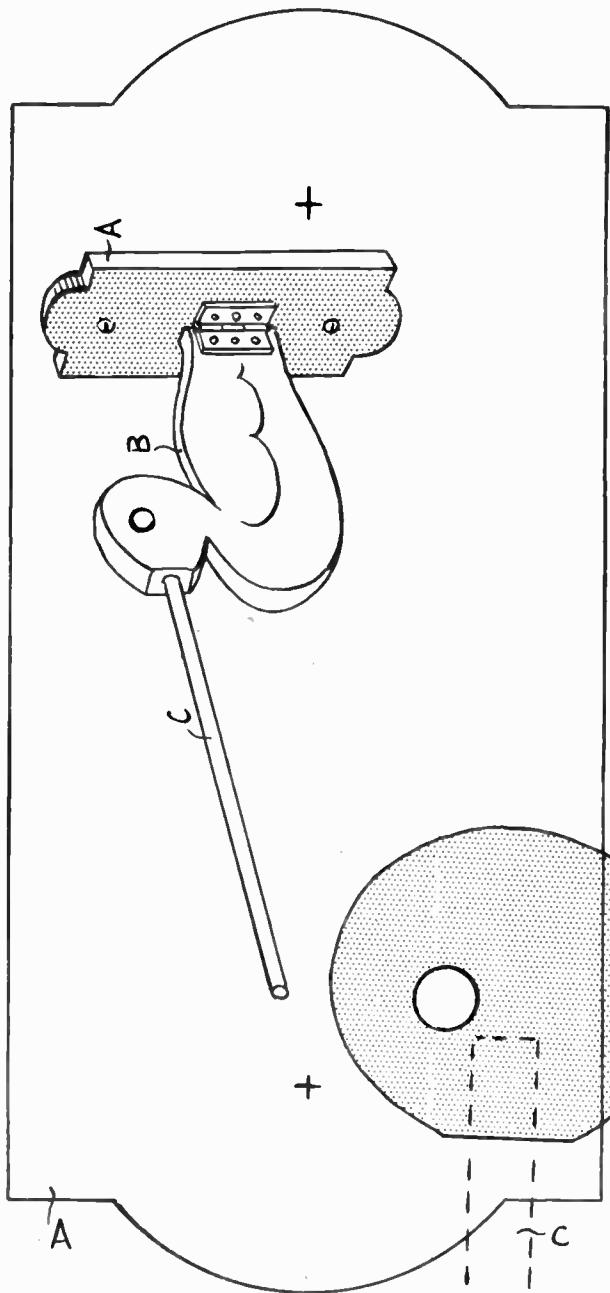
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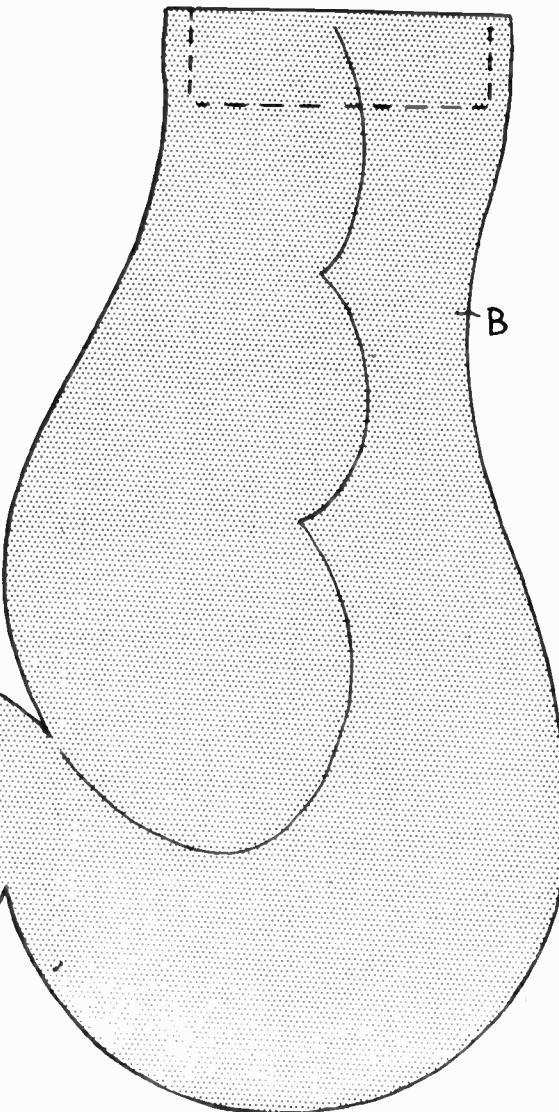
Novelty Towel Rail

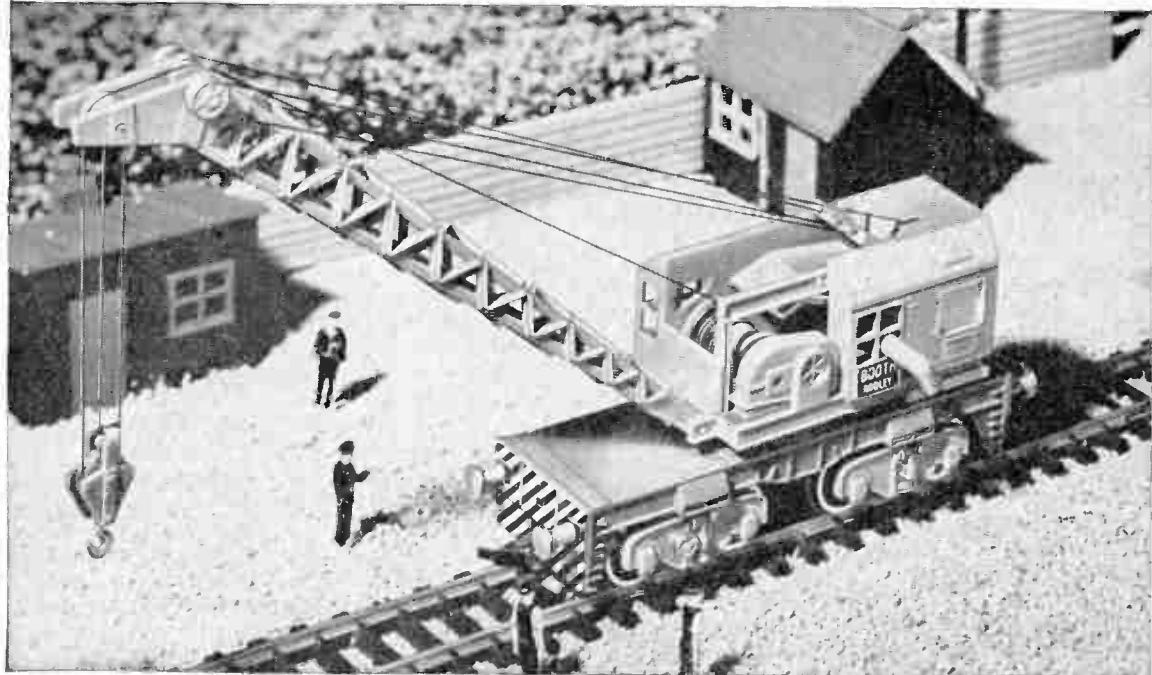


31

CUT one of piece A and one of piece B from $\frac{1}{2}$ in. plywood using a Hobbies fretsaw. Drill piece B to take a 12 in. length of $\frac{3}{8}$ in. round rod C as shown by the dotted lines.

Hinge piece B to piece A and give two coats of paint. Rawlplug piece A to the wall in a suitable position. (M.p.)





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weekly

24th APRIL 1963

VOL. 136

NUMBER 3515

COFFEE TABLE



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AN American reader has sent the following notes on coin collecting, which will be of interest to readers who include American coinage in their collections.

As you might guess, coin collecting is one of the biggest and most interesting hobbies in the United States today. Unlike stamp collecting, also a large hobby, coins need not be bought for the numismatist's collection. Many coin collectors, including myself, have merely started out by picking coins out of circulation. After a few months, you will be amazed at the number of coins you have.

U.S.A. COINS

Many coin collectors specialize in U.S. proof sets. A proof set consists of Philadelphia minted coins in denominations of cent, nickel, dime, quarter, and half dollar. They are minted by a specially polished die, and result in a mirror-like finish, after which they are sealed in cellophane.

Previous year's proof set values run something like this: 1954 — \$11.00; 1955 — \$11.00; 1956 — \$6.50; 1957 — \$4.00; 1958 — \$8.00; 1959 — \$4.00, and 1960 — \$4.00, in retail price. Proof sets are a truly wise investment, as they mount up very rapidly in value. They are purchasable at the U.S. Mint, Philadelphia, at the price of \$2.10.

Many people who come across silver dollars as far back as the 1800's think they are valuable; this is not necessarily so. Only a few of these silver dollars are worth anything beside their face value. A large percentage of the silver dollars are in such places as Las Vegas, and Reno, Nevada, and are built up in large stocks. If you collect silver dollars just for the sake of collecting them, you may obtain them at almost any bank.

Many coins during the last couple of decades have been outstanding in the field of numismatics. Did you know that one coin alone has been sold for \$28,000.00? Yes, the 1804 silver dollar was recently bought for this price. The mint record shows that there were only seven originals, and seven restrikes made. At a recent numismatic convention in

Miami, \$50,000.00 was offered for the 1913 Liberty Head nickel, although it was declined. There were only known to be five of these coins made. These two famous American coins are believed to be the rarest and most valuable U.S. coins in existence.

Many times in numismatics, the mint makes coin defects or errors. Many people think, because of these defects, they are not worth face value; however, in most cases they are worth extremely more than face value. Just a few such cases are: the 1941 dime with the 42 over the 41 — worth \$37.00 in good condition; the 1937-D Buffalo nickel with only three legs — worth \$10.00 in good condition; the 1955 cent, where the coin was stamped twice, giving it a double image effect — worth about \$60.00 in extra fine condition.

Coin collectors must watch out for coins with altered dates. Two such cases of this are the 1914-D Lincoln cent. It was transformed from a 1944-D, in which all but the vertical line of the first '4' was ground away, giving it the appearance of 1914-D. However, this can sometimes be detected. Under the lower right-hand shoulder of Lincoln, in the case of the altered date, the initials VDB, which stand for the designer, Victor D. Brenner, can be seen. The 1922 Lincoln cent is another such case. It was transformed from a 1922-D by grinding down the 'D'.

SWEDISH NOBEL PRIZE ISSUE

As a continuation of the stamp series with Nobel Prize winners the Swedish Post Office issued on 10th December 1962, two new jubilee stamps of the values 25 öre and 50 öre to commemorate the following persons awarded the Nobel Prize in 1902.

Pieter Zeeman (1865–1943), and Hendrik Antoon Lorentz (1853–1928), Dutch physicists, 'in recognition of their research upon the influence of the magnetism on the phenomena of radiation'.

Hermann Emil Fischer (1852–1919), German chemist, 'in recognition of his



A new 'anti-malaria campaign' set from Cuba

synthetic work in the sugar and purine groups'.

Sir Ronald Ross (1857–1932), Professor of tropical medicine in Liverpool, was awarded the prize in recognition of 'his work concerning malaria, and the ways of fighting this disease'.

Christian Matthias Theodor Mommsen (1817–1903), German historian, lawyer, and philologist, as 'the greatest living master of the present time in the art of historical exposition, particularly in respect to his monumental work — Römische Geschichte'.

The 25-öre stamp (red) shows Mommsen and Ross, and the 50-öre stamp (blue) shows Lorentz, Zeeman, and Fischer.

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Illustrated on front page

ATTRACTIVE COFFEE TABLE

HERE is a small table which can be produced with a modest tool kit by the novice with little or no experience.

A noteworthy feature is the fact that all the principal members of the assembly are obtained from 2 in. by $\frac{1}{4}$ in. dressed timber. This will make your cutting list so much simpler.

Any well-seasoned hardwood can be selected but, perhaps, the type of plywood available will determine the timber used for the frame.

By D. McGhee

Commence by making a card template for a leg to the dimensions shown. This template is now used to mark out four identical legs. The tapered edges must be planed quite true, otherwise the final appearance of the project will be impaired. The rounded tops of the legs may be cut with a saw, and finished with a form tool and glasspaper. (Remember to use a glasspaper block.)

The end rails should be cut to 9 $\frac{1}{2}$ in., and the side rails to 17 in. It is very important that these ends are cut perfectly square. A try-square and marking gauge are used to locate the centres for the $\frac{1}{4}$ in. diameter dowel holes. All these holes should be drilled $\frac{1}{2}$ in. deep (except

CUTTING LIST. (FINISHED SIZES)

Parts	No.	Length	Breadth	Thickness
Legs	4	17 in.	2 in.	$\frac{3}{4}$ in.
End rails	2	10 in.	2 in.	$\frac{3}{4}$ in.
Side rails	2	18 in.	2 in.	$\frac{3}{4}$ in.
End rods	2	11 in.	$\frac{1}{2}$ in. dia.	
Side rods	2	18 in.	$\frac{1}{2}$ in. dia.	
Top (ply)	1	18 in.	13 $\frac{1}{2}$ in.	$\frac{1}{2}$ in.

those on the leg, where the thickness does not permit — $\frac{1}{8}$ in. will do). Each $\frac{1}{4}$ in. dowel hole should be slightly countersunk, so that eventually the mating surfaces may be drawn up tight.

The end rails require a little more treatment before the assembly stage. A cut out on each rail is essential to relieve the square line of the design and the underside of each end rail is rebated $\frac{1}{2}$ in. by $\frac{1}{4}$ in., to accommodate the plywood top. Then $\frac{1}{2}$ in. diameter holes, $\frac{1}{2}$ in. deep are drilled as shown. The long dowels are 18 in. long, and the short ones 10 $\frac{1}{2}$ in. long.

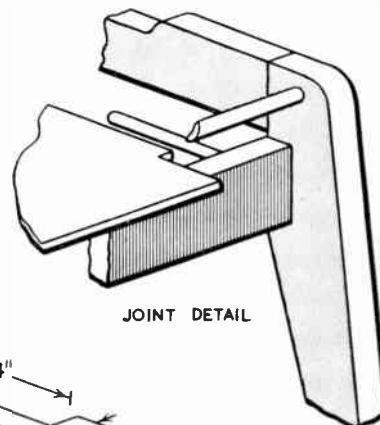
The top is a panel of $\frac{1}{2}$ in. plywood 18 in. by 13 $\frac{1}{2}$ in. The width should be reduced to the appropriate width of the assembled end frame. Each corner will require a cut out. The exact dimensions of these cutouts will be found by offering the panel to each assembled end frame.

When all the parts are complete, test for fit (the joint dowels should be cut about $\frac{1}{8}$ in. undersize and their ends lightly chamfered). Fix the top accu-

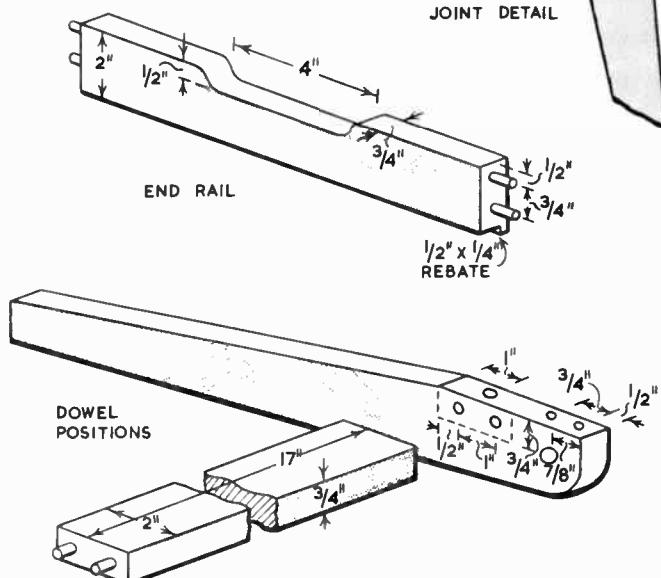
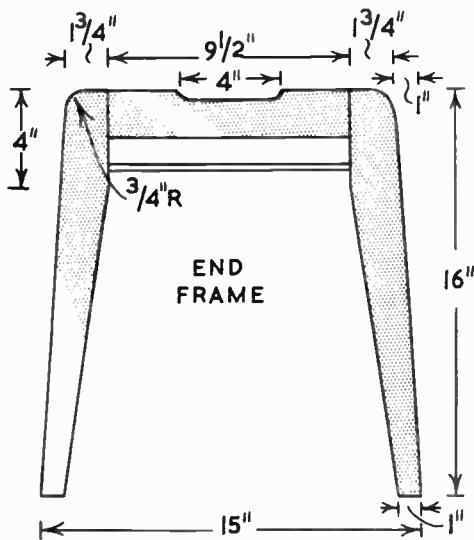
rately to the side rails with an impact adhesive. Now put the end frames together. These two units are now linked together with the top assembly and the two side rods. A few panel pins will secure the top into the rebate.

Sash cramps most certainly are an advantage, and should be used when putting the parts together.

Finish is largely a matter of personal choice, and may well be determined by existing furniture. Furniglas produce a French polish kit which enables the amateur to impart a satisfactory finish to such a project. There is the standard set (5s. Od.) and larger set (9s. Od.). Heat-resisting sets are also available at 6s. 6d. and 12s. Od. from branches and Hobbies Ltd, Dereham, Norfolk (post and packing 2s. Od. extra).



JOINT DETAIL



T.V. AND V.H.F. AERIALS

THE previous article described the most popular types of aerials, and explained how the elements are connected, and how to choose a suitable aerial. Actual construction will depend on the kind of aerial, and whether it is for indoors or outside. Items such as the boom may also be either of wood or metal, according to materials to hand, or tools available.

By 'Radio Mech'

The aerial A in Fig. 1 can be made by fixing the two elements to a piece of insulating material, as in Fig. 2. A piece of perspex or other reasonably strong material about 6 in. by 6 in. will do for this. Clips can be bent up from scrap aluminium sheet, which is easily cut with shears or a hacksaw. Corrosion will probably arise in due course if dissimilar metals are used for clips and elements, so it is wise to keep to the same kind of material, as far as possible. Small nuts and bolts secure the clips to the insulation.

An aerial like that at A in Fig. 1 will only need a boom in one direction, for mounting purposes. This can be 1 in. by 2 in. knot-free hardwood. If the aerial is outside, the boom should be at least as long as one dipole element, if possible. It may be screwed to a bracket mounted on the house.

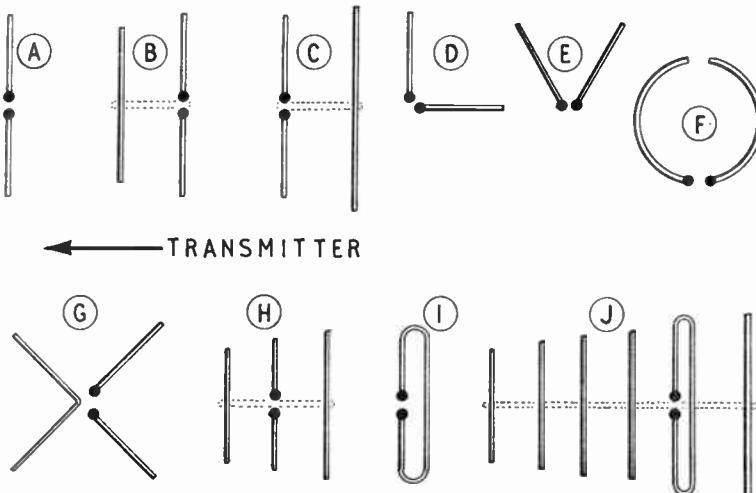


Fig. 1—Popular types of T.V. and V.H.F. aerials

Aerials like those at B and C in Fig. 1 require a director or reflector. This can be fitted in a groove cut at one side of the boom, being clamped in position by a triangular piece of wood, as in Fig. 2. The wood carries a clip, to steady the element. The boom is of such a length as to bring dipole and director or reflector elements the correct distance apart. With a H type aerial, the feeder travels along the boom, then down the mast, which is central between the elements.

The aerial at H in Fig. 1 will need a boom long enough for all three sets of elements, and at least 1½ in. by 2 in. With any outdoor aerial, the whole construction and mounting must be

strong enough to resist wind pressure. Wooden construction is not recommended in very exposed positions.

An indoor aerial will be sheltered from wind, and the materials need only be strong enough for the aerial to be fairly rigid. A softwood boom ¾ in. by 1½ in. or so will easily suffice here.

X-Aerial

This type is shown in Fig. 1 at G, and may be constructed as in Fig. 3. Suitable clips are most easily bent in a vice, by forming the aluminium round a piece of wood, or other object, of the same diameter as the aerial rods. The two elements of the director are connected together. One piece of tube,

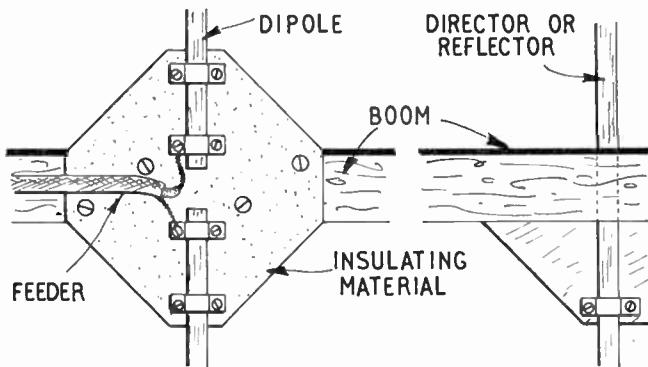


Fig. 2—Mounting elements on a wooden boom

bent at right angles in the middle, could be used. The part to be bent should be hammered flat.

Indoor V

This aerial is shown at E in Fig. 1, and is very easily made. A semicircle of insulating material can have two clips bolted to it, in the same positions as the two top clips in Fig. 3, and these will hold the elements. A fairly heavy base, cut from wood, will hold the aerial up. It is sometimes placed on top of the receiver.

The aerials D and F in Fig. 1 can be made in the same way. One feeder conductor is connected to each element.

Folded Dipole

This element is illustrated at I in Fig. 1, and used in aerials such as that at J. Fig. 4 shows a method of construction, where the dipole is bolted to a bracket, and the folded ends are secured to a strip of perspex or similar insulating

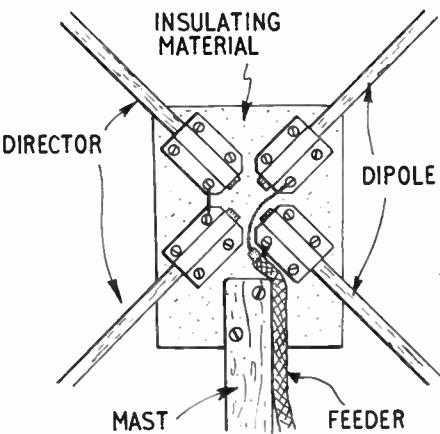


Fig. 3—Centre of X-type aerial

material. The bend is such that the curve at the end of the element, I in Fig. 1, is about 3 in. in diameter.

In Fig. 4, a metal boom is shown. Reflector and directors (J) can be fitted by drilling the boom to be a tight fit for the elements, then inserting a small bolt at right angles through boom and element. Joints in metal construction out of doors should be as tight as possible. Bitumen or other out-door paint will help seal the joints against corrosion.

The folded ends of the dipole may also be supported by inserting a wooden dowel several inches, then drawing it into the other element, after bending. Indoors, wood is suitable for insulating the elements, if dry and varnished.

A somewhat similar construction can be used for an aerial with wooden boom.

Wire Aerials

As mentioned, wire can be used for the elements. This has the advantage of low cost. For example, the X aerial G can be made by constructing a wooden X from $\frac{3}{4}$ in. by $1\frac{1}{2}$ in. or similar strip-wood, and stretching wire from centre to ends. This can give good results for both TV and VHF reception, though it is slightly less effective than an aerial made from self supporting tubes.

For wire aerials, fairly stout copper wire is best—12 SWG or 14 SWG, or 7/26 or 7/22.

In some cases it is possible to erect indoor wire aerials by attaching an aerial insulator to each end of the wire, and taking thin cords from the insulators to suitable supporting points. No framework at all is then needed. An insulator is required at the centre of the dipole, where the feeder is connected.

Rod Aerials

Alloy tubing of $\frac{3}{8}$ in. or $\frac{1}{2}$ in. diameter

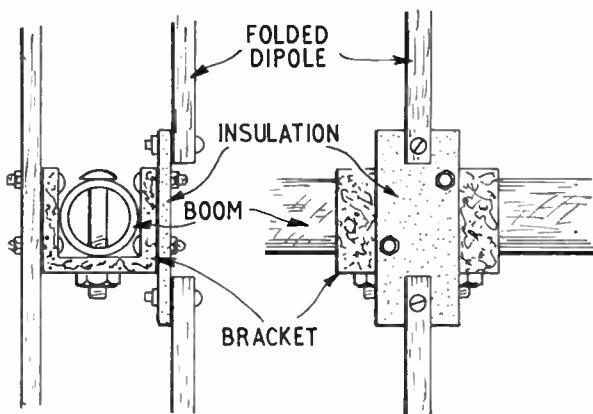


Fig. 4—Mounting of folded dipole

is commonly used. There is some departure from this, however, since the length of the rods to some extent determines the strength required. For example, an element for Channel 1 will need to be around 11 ft. long, which is very different from an element for Channel 10, only a little over 2 ft. long.

Band and length

So many TV and VHF channels are in use that it is quite impossible to list dipole, reflector and director lengths for all channels, in view of the large amount of space this would require. However, channels and locations have already been listed, and the frequencies are as shown in next column.

The aerial is needed to work over a band of frequencies, not on one frequency alone; i.e., the frequency about mid-way between vision and sound frequencies.

The length, in inches, for the dipole element of the aerials, can be found by dividing 5540 by the frequency in mc. The reflector element is generally 5 per cent longer than the dipole. The first director (H Fig. 1) is about 5 per cent shorter than the dipole.

The calculation above gives approximately one half-wave at the working frequency. That is, the dipole is one half wavelength long. Spacing between elements can be 0.2 of a wavelength. Spacings of 0.15 to 0.25 wavelength are common for the reflector.

The exact length of the elements (and spacing) is influenced by the number of elements, distance between them, and proximity to other objects. Fortunately, the dimensions are not highly critical, with an aerial made from tubing, for the reason given earlier.

Aerials like that at E in Fig. 1 often have sliding elements, one tube fitting in another. The exact length can then be adjusted for best results.

As a guide, dimensions for some aerials are given below. The data is as follows:

- a, type of aerial in Fig. 1.
- b, channel.
- c, dipole length.
- d, reflector length.
- e, spacing between dipole and reflector.
- f, director length.
- g, spacing between dipole and director.
- h, 2nd director length.
- i, spacing between 1st director and 2nd director.
- j, k, etc., length and spacing of other directors.

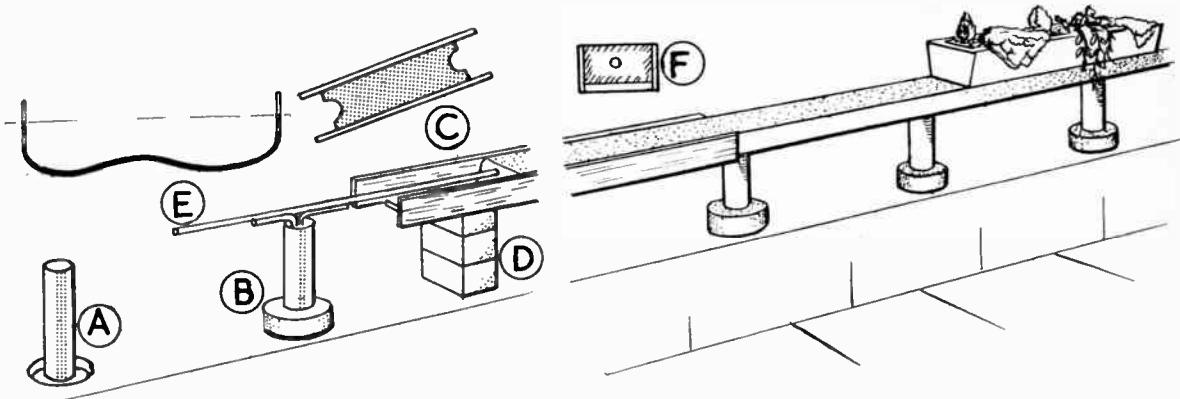
Items omitted are not required for the particular aerial. Lengths for channels not given for one type may be found for another type, or will fall between lengths of given channels.

Channel	Sound	Vision
1	41.45	45
2	48.25	51.75
3	53.25	56.75
4	58.25	61.75
5	63.25	66.75
8	186.25	189.75
9	191.25	194.75
10	196.25	199.75
11	201.25	204.75

Frequencies are in megacycles (mc).

- a, A, b, 1, c, 10 ft. 10 in. a, A, b, 2, c, 9 ft. 4 in.
- a, A, b, 3, c, 8 ft. 6 in. a, A, b, 4, c, 7 ft. 9 in.
- a, A, b, 5, c, 7 ft. 3 in. a, A, b, 6, c, 5 ft. 4 in.
- a, A, b, 7, c, 5 ft. 2 in. a, A, b, 9, c, 4 ft. 10 in.
- a, C, b, 1, c, 10 ft. 10 in. d, 11 ft. 3 in. e, 2 ft. 8 in.
- a, C, b, 3, c, 8 ft. 3 in. d, 8 ft. 10 in. e, 2 ft. 1 in.
- a, C, b, 5, c, 7 ft. 3 in. d, 7 ft. 6 in. e, 1 ft. 11 in.

● Continued on page 38



An Ornamental Balustrade

A STEEL and concrete balustrade makes an attractive feature in a garden. It can be used to edge a path or driveway, or to mark the boundary of a terrace or patio area. The balustrade shown is strong enough to support a heavy line of decorative concrete plant troughs, but it is quite simple and inexpensive to make.

By A. Liston

The balustrade can be of any length or height; the one shown is 15 in. high, as this has proved to be a suitable height for an average garden.

The method of construction is as follows. First, 3 in. deep holes are dug at 4 ft. intervals in the existing pathway, and 18 in. long sections of 3 in. diameter steel pipe are set in place A. An old clothes pole is ideal for this purpose, and can be easily cut with a hack-saw. If the posts are being set in soft ground, the holes should be 9 in. deep and 9 in. in diameter, and 24 in. long sections of pipe should be used.

A round tin mould, of about 9 in. diameter — a baking tin, for example — is placed at the foot of each post and filled with cement, B. The metal posts are also filled with cement, and two L-shaped pieces of metal rod or pipe, about 12 in. long, are sunk in this, as shown. Scrap electric conduit pipe is very suitable for this.

The mould for the concrete balustrade itself C is made from $\frac{1}{2}$ in. thick wood, and is 6 in. wide and 4 in. high. A suitable length is 2-3 ft., and the sides of the mould should protrude for 3 in. beyond the base at each end. The ends of the base are cut away as shown to fit the curve of the upright post.

The mould is supported on piles of bricks D, its open end being stopped with a small polythene bag filled with sand. The mould is filled with a 3:1 sand and cement mixture, and a reinforcing rod E is embedded in the mixture F. This rod should be as long as the span between the posts, and can be wired to the arms set in the post. The protruding end of the rod is allowed to poke through the polythene bag which closes the end of the mould.

After forty-eight hours, the mould can be moved along, ready for the next section to be completed. An extremely simple means of keeping the balustrade level is to use a length of rubber or plastic tubing with a piece of glass tubing inserted in each end G. This is filled with water to within 1 in. of the top of the tubes. Since the water finds

its own level over any length of tubing keeping the balustrade level throughout its length is an easy matter.

The metal posts look best painted in a pale pastel colour, or in aluminium lacquer. If concrete plant troughs are to be made, they are best moulded at the same time as the balustrade, using the same grade of concrete. Two box moulds are needed, one being 4 in. smaller in length and breadth than the other, and 2 in. less in depth, so that when the concrete is poured into the space between the small inner and the large outer mould, the walls are never less than 2 in. thick. The sides of the moulds should be sloping, for easy removal of the concrete, and the troughs should not be longer than 24 in., as they become too heavy to handle, and more liable to breakage above this size.

● Continued from page 37

T.V. AND V.H.F. AERIALS

a, H. b, 1. c, 10 ft. 10 in. d, 11 ft. 3 in. e, 2 ft. 8 in. f, 10 ft. 4 in. g, 2 ft. 2 in.
a, H. b, 4. c, 7 ft. 9 in. d, 8 ft. e, 2 ft. f, 7 ft. 5 in. g, 1 ft. 7 in.

a, G. b, 1. c, 2 by 5 ft. 11 in. f, 2 by 5 ft. 2 in.
a, G. b, 2. c, 2 by 5 ft. 2 in. f, 2 by 4 ft. 5 in.
a, G. b, 4. c, 2 by 4 ft. f, 2 by 3 ft. 7 in.

a, E. b, 6. c, 2 by 1 ft. 4 in. a, E. b, 8. c, 2 by 1 ft. 3 in.
a, E. b, 10. c, 2 by 1 ft. 2½ in. a, E. b, 12. c, 2 by 1 ft. 1½ in.

a, J. b, 6. c, 5 ft. 4 in. folded. d, 2 ft. 9 in. e, 1 ft. 1 in. f, 2 ft. 6 in. g, 1 ft. 0 in. h, 2 ft. 5 in. i, 1 ft. 0½ in. j, 2 ft. 4 in. k, 1 ft. 0½ in. l, 2 ft. 3 in. m, 1 ft. 0½ in.
a, J. b, 10. c, 4 ft. 9 in. folded. d, 2 ft. 5½ in. e, 1 ft. f, 2 ft. 3 in. g, 1 ft. 0 in. h, 2 ft. 2 in. i, 1 ft. 1 in. j, 2 ft. 0 in. k, 1 ft. 1 in. l, 1 ft. 11 in. m, 1 ft. 11 in. n, 1 ft. 11 in. o, 1 ft. 11 in. p, 1 ft. 11 in. q, 1 ft. 11 in. r, 1 ft. 11 in. s, 1 ft. 11 in. t, 1 ft. 11 in. u, 1 ft. 11 in. v, 1 ft. 11 in. w, 1 ft. 11 in. x, 1 ft. 11 in. y, 1 ft. 11 in. z, 1 ft. 11 in.

When the aerial is for FM reception, the band to be covered is larger. The aerial is cut for about the middle frequency. It would thus be about 10ft. 1 in. before folding, for about 91mc. The reflector would be about 5 ft. 5 in. and 1st director about 4 ft. 10 in.

Various suppliers can provide fittings which will simplify construction, though the cost of the aerial is then increased. For metal construction, clamps to secure boom, mast and elements may be used. When elements are obtained ready cut, it should be stated which channel the aerial is to use. Various ready to assemble aerials are also obtainable. The wire aerial is cheapest of all, but only suitable for some positions.

DON'T FORGET THE BACK VIEW

WHEN the snap-shutter takes a general street scene he probably remembers oft-given advice—to try to avoid having folks walking straight towards the camera, close-up and probably staring curiously right at the lens. Maybe you want 'life' in your street shot but if you try to get nearby folks walking away, with their backs unsuspectingly to the camera, in that way your snap remains a 'live' street shot without somebody looming large and

By E. G. Gaze

near and staring right out of the finished print in a way that steals the interest and turns it into just a snap of 'some stranger in a street'.

But there are other times when you deliberately aim at back views, and do it because the back-view is the picture. This tip is often forgotten when we're gaily snapping away at friends or family. We want a record of them as they are, so we get them full face. That way everybody recognises everybody else in the family album. But we also know our friends and families by their back views! Such as the characteristic way they stand or walk or place their hands, and from their dress.



A corner in Laycock (Wilt.). Children running home (teatime) add a brief moment of 'life' to the scene

Sometimes we cut a different figure from the back than from the front—a figure that's just as personal. Children often have special little characteristic poses that can spot them out for you in a crowd of other children, even from a distant back view.



A seaside back-view makes a change, and in the family each back-view is as individual as the front view

Next time you're snapping the family at the seaside don't always get them head on—try the back view. Sometimes it's amusing, sometimes it just shows the folks we know best in a way we see them so often. From a photographic angle, too, a back view often leads to a 'different' angle on the usual holiday shot for your album. A mixture of back and profile can give a pleasant composition.

Of course, when out and about with the camera, don't get obsessed with back views only—or your family won't like you! And don't snap the cruelly unkind picture that may make others laugh but will only offend the unsuspecting victim.

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**Make it
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"The Li

PIECE B CUT ON

* PIECE A CUT ONE
TO OUTLINE $1/8$ IN.

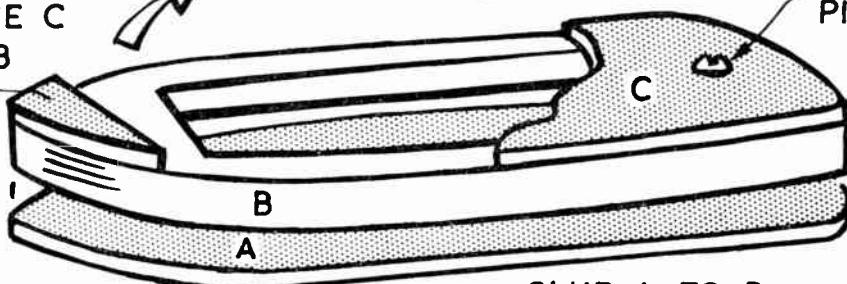
* PIECES C CUT ONE TO
OUTLINE & THEN CUT
ACROSS THIS LINE TO
GIVE TWO PIECES $1/8$ IN.



GLUE END
PIECE C
TO B

SWING TO OPEN

SCREW AS
PIVOT

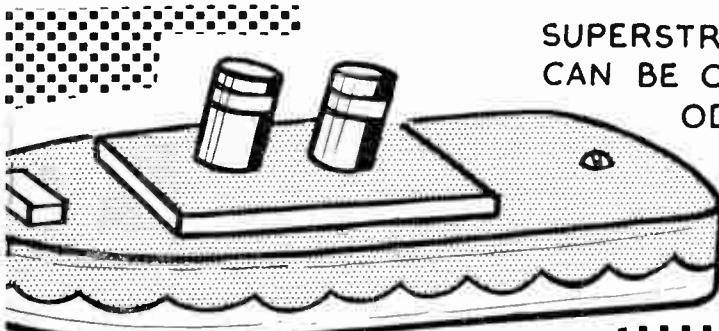


GLUE A TO B

"Mer'" PENCIL BOX

IDEA
E 1/2 IN.

WITH
RETSAW



SUPERSTRUCTURE
CAN BE CUT FROM
ODD WOOD

PAINT CHILD'S
NAME ON THE
BOW



PAINT BRIGHT
COLOURS

NEW Thoughts on



RAILWAY MODELLING

I HAVE told you about the method of wiring up some of your sections of track in a past article, but I propose now to give a more extensive study of the interesting subject of electrification of the layout.

Many of my readers will not have large switchboards, but there is always the possibility that at some future time you will want to add such equipment as pilot lamps, which show at a glance what sections of the track are under power, and also the amount of power that is going into each line.

Perhaps the best way I can explain is to draw a section of a railway and put in all the wiring for all the sections, the points and the lighting and then you will be able to see exactly what you have to do to make such a model fully wired electrically.

The section I am about to explain is a part of my own Maryville, Fredericton and Westbury Model Railway. You will

note that three controllers are used — one for the up main line, one for the down main line, and the other which is called the yard controller. This latter one is for all the tracks other than the main lines. There are several buildings on the section, all of which are lit, and there are several points controlled by point motors.

ELECTRICAL KNOW-HOW

By F. A. Barrett

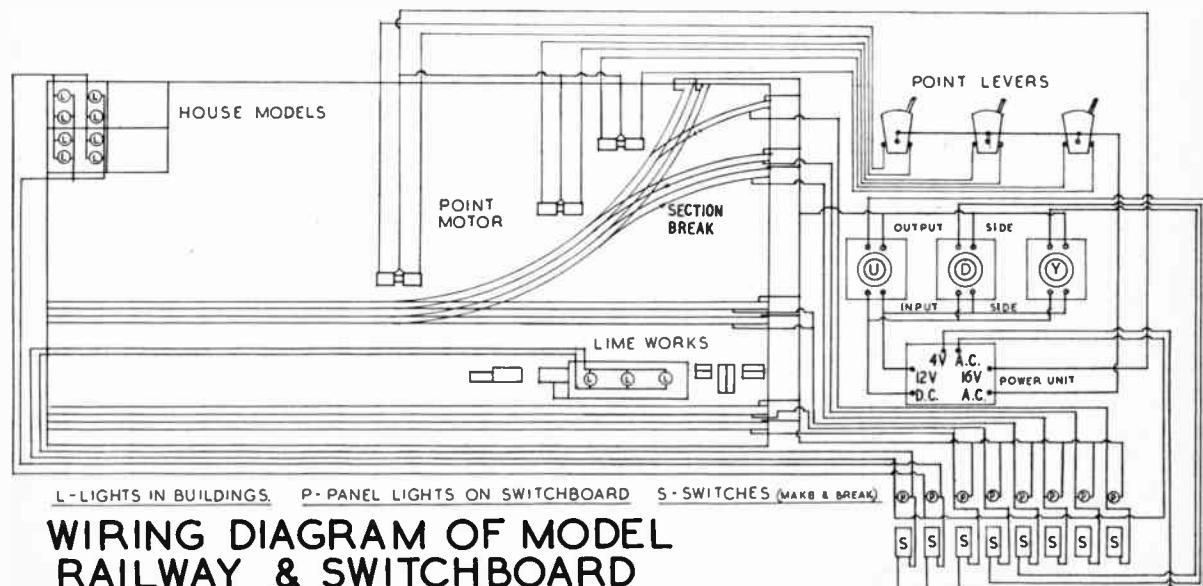
Now, in the case of my own layout all the sections or boards are joined to each other electrically by plugs and sockets, and again there are plugs to attach the sections to the Switch Console. For each section of track there is a switch and a pilot lamp, and apart from this we have the controllers, and naturally our power pack. On my railway I have several power transformers —

one large one for the trains, one for the point motors, and several small ones for lighting—and you might be interested to know that I use bell transformers for my lighting. These are very useful, and providing one puts a fuse across them there is no danger of overloading.

Pilot Lamps are easily obtainable these days. You can try your local radio shop for a suitable type that takes the small torch bulbs. Ask for a lamp with an M.E.S. socket. I use red lamps for up main lines, green for down, and yellow, white or blue for other sections.

Whilst speaking of pilot lamps, I use a neon lamp for my main power switch. This tells me that the main power is connected to my power packs, and it works off the 250 volt circuit.

Power is fed to the tracks through a controller. There are several reliable types on the market. When wiring up your layout use 14/0076 wire flex. This you will be able to get from most radio shops or electrical dealers, and it is available in a number of colours and combinations of colours, so that it is possible to use a different code for each of your circuits. Make it a practice always to solder your joints; this will



save a lot of trouble at a later date.

You will note that one side of every track is connected together; that is to say the rail on the right hand side of each track section, as I explained in my last article on electrification. If you loop all of these together you will save yourself a lot of wire, and will find that you will have no trouble. The other rails are joined either singly or looped in a similar way, depending on the type of working you want. Normally you would take a wire from the left hand rail to the controller through a switch and a pilot lamp if one is fitted. In the case of several sections being connected together, you would loop them all and take a line from the last one to your switch.

You will note that in my layout I have three controllers, and need to accept trains from one controller to another. The wiring of this is shown in the drawings. It is a simple matter, but you will have to use a double pole, double throw switch for the purpose. This type of switch has six connections. The centre pair are connected to your track, one of the outer pairs are connected to one controller, the other pair to the other controller. You can connect a pilot lamp across as shown, and this will give you an indication that all is well.

If the lamp glows you will know that you have a crossed connection and will have the controllers in opposite directions. All you need do is reverse your switch on the controller.

Lighting for buildings is easy. I would recommend the small pea bulbs sold by Hobbies, complete with fitting for 9d each. These are easily fixed into the building, and connected through a switch to either a power pack or a battery. If you are using more than one bulb you can connect to a four volt output on your transformer, but if you are using only one light then I would employ a small battery.

Point control is different as here we have to have three leads from the motor to the switch. I have shown how this is done in a previous article, but will repeat it here for the benefit of those that perhaps missed it. You will see the detail from the drawing. It is most essential with point levers or motors that you use only the type of switch that is designed for them. You can as an alternative use a couple of push switches as used for doorbells; all that is needed to make them work is a flash of power. It is very dangerous however, to leave the power on. You will burn out the point motor and very possibly your transformer. It could also cause a fire.

NEW MODELS FROM ROVEX SIGNALS are essential on any railway. Sand is a recent addition by Rovex for the Tri-ang railways is a colour light signal, which can be used for either TT3 or OO/HO. It comes complete with signal, leads, and lever frame section. It is of the two aspect type, and fitted with two tiny bulbs which light from a 15 volt A.C. supply (supplied on the Tri-ang Power Pack). There is a base for the signal which fits on the rails, and colour coded connections make the fitting fool-proof. A very good buy at 15s. 6d. complete.

I have also received samples of a new buffet car which is of scale length and fully detailed inside and out. A really first-class model in every way, it sells for 11s. 6d. The colour is maroon, and this fits in with the sleeping cars, etc. in this range.

Another model is a bogie tank wagon in red and black, lettered I.C.I.—another good model for 10s. 6d. Both of these items of rolling stock are modelled in the OO/HO range and being of scale length they look right.

Many of you will think that a large switchboard is not needed, but for a large railway it is essential, and one must always plan for future expansion.

In my next article I will show a drawing of my own layout, and will tell you of some of the additions that I am making to it in order to get it ready for one of the major exhibitions this year—the Model Railway Hobby Show.

The 6ft 'Pete' Dinghy



Designed by that well-known boat expert P. W. Blandford, 'Pete' can be made in either marine plywood or oil-tempered hardboard.

As shown, it is light enough to be carried by one person and is ideal for the angler, or as a tender to a yacht.

'Pete' is basically intended for rowing, or sculling over the stern, but a small out-board motor can be installed, or a small sail can be fitted.

Plans for this pram dinghy, with shaped parts shown full size, are available price 11s. 0d. (post free) from

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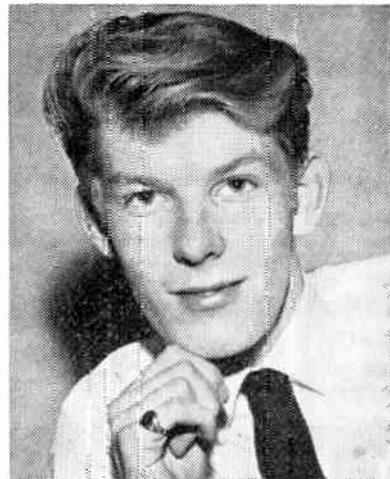
GENUINE INTRODUCTIONS, friendships or marriage, all ages. — V.C.C., 34 Honeywell, London, S.W.11



BRIAN HOWARD

If it hadn't been for a chance remark by Columbia A and R man, Norrie Paramoor on television, we might never have heard of Brian Howard and the Silhouettes. For when being interviewed on an ATV magazine programme by Bernard Braden, Norrie just happened to say that he was always ready to listen to tape recordings and demonstration records submitted by ambitious singers and groups.

There was an overwhelming response, and for three months the Columbia office was knee-deep in dubbings, tapes,



he did an audition.

Jack was greatly impressed by the boy's potential, but as *Oh Boy!* was shortly due to end its run, he promised to use Brian in the next series. Unfortunately the new series never materialized, for when the teenage show came back it was as *Boy Meets Girls* with a different policy, and no room for unknown artists.

Some good came out of Brian's audition, however, for Guy Robinson was one of the people present. Guy, who manages Johnny Kidd was similarly convinced that Brian was a star in the making, and gave him the opportunity of appearing in several shows, and helping him improve his stage act.

By this time Brian had left secondary school and was working as laboratory assistant.

For the next few months Brian moved from group to group, eventually ending up with lead guitarist, George Cole, drummer Ian Hague, and bassist, Dave Burns, and playing dates as Johnnie Howard and the Silhouettes.

Brian and the boys were kept pretty busy as semi-professionals, but they turned full-time pro's when the offer came to do a tour of U.S. Services camps in France.

They spent some six months there, and were a great success, before returning to England for a short holiday at Christmas last year.

During their short but enjoyable Christmas holiday they had sent a test tape to E.M.I. Records, with the result that Brian and the Silhouettes were signed up.

On Columbia Brian sings *Young And Evil* backed by *Somebody Help Me* — a number which Brian penned himself (45-D B 4914).

THE SHERRYS



This new American teenage group had a big hit with their recording of 'Pop Pop Pop-pee' on the London label. Two of the girls are sisters and all four attend the same high school.

manuscripts, and letters. Among the 1,200 received was Brian's record, on which he sang one of his own compositions, *Somebody Help Me*.

Born John Gibb, on 20th April 1942, Brian's first brush with show business came at the tender age of ten, when he won first prize in a seaside talent contest by singing *Secret Love*.

The prize was a book, and thus encouraged, Brian went again to the same resort, Lowestoft, the following year, entered the same competition, sang the same song, again came first — and won the same book!

When the skiffle craze hit Britain in 1956, Brian bought himself a ukulele, and a book on how to play it. Later he bought a clarinet, but this soon gave way to a guitar. Nowadays he plays tenor sax as well, but does not play any instrument in his stage act, preferring to concentrate on singing.

He formed his own group, *The Gravediggers*, and later entered a big talent competition at the Granada, Tooting. He got into the finals, itself a great achievement, but was beaten by Rory Blackwell. Cliff Richard was the winner in another of these very popular competitions at Tooting.

When the TV rock show *Oh Boy!* was at the height of its fame, Brian set out one Saturday morning to try for an audition. The first time round he got no further than producer Jack Good's secretary. As he went out of the stage door with his guitar slung over his shoulder, a number of girl fans standing around thought he was in the show, and asked him to sing to them. He obliged, and the reception was tremendous!

It was a bit too tremendous though, for by late afternoon the crowd had grown from about twenty to several hundred.

Complaints came from the theatre that the noise was interrupting rehearsals. Eventually Brian was invited in by Jack Good to see the show, and later

MAKE YOUR OWN

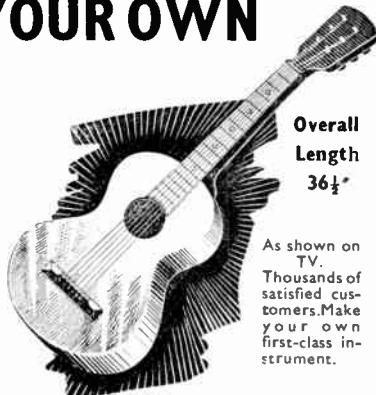
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Kit 3209

All wood (including partly shaped neck) full-size plan, six strings, etc.

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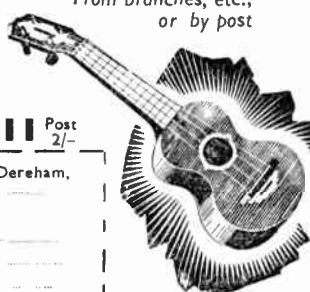
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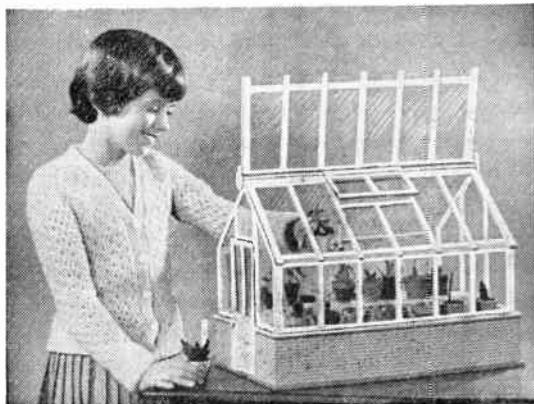
Contains all wood, wire strings, etc., for full-size instrument

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JUST LIKE DAD'S!

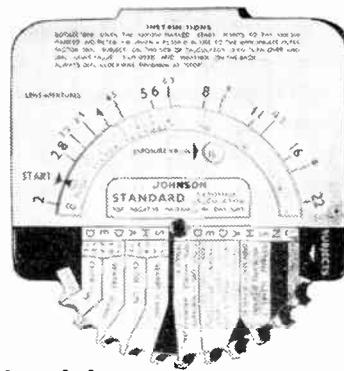
You can make this ideal showpiece from Hobbies Kit No. 3300, which contains all wood, materials, etc., and 12 sets of pots and saucers. Hinged roof, window, door. 18 in. x 12 in. x 13 in. high. Only a few simple tools needed in construction.

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SUPPORTLESS SHELVES

WE have all at one time or another, had a go at fitting shelves. And the most likely location for them is in a recess.

Yet, no matter what a good job you make, there is something about them that is commonplace. You have either used shelf brackets or fitted wood bearer pieces to carry the ends. And they look no better than those shelves you hastily put up in the workshop.

By Ed. Capper

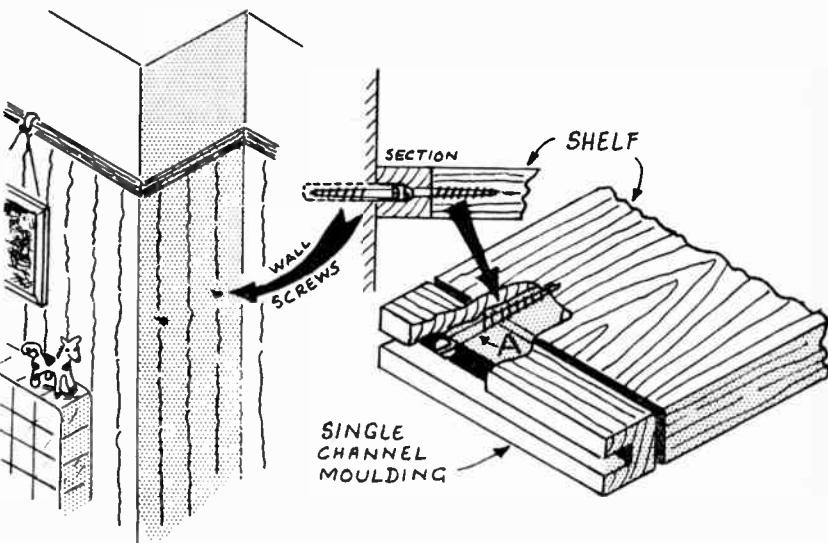
Brackets or supports, no matter how well they are fitted, look ugly. If only shelves could be fitted without supports! Well, there is a way, as the drawing shows.

The two ends of the shelf length are fitted with lengths of single channel moulding and the channel slides over two screws fitted into the walls of the recess. And by this method, they have the advantage of being removable shelves, thus facilitating a quick clean. Channel moulding is the type normally used to house hardboard sheets for the side pieces of cabinets.

Probably you will use timber of around 1 in. thickness for the shelves; in fact, you should not use anything less for shelves of 2 ft. 6 in. in length and upwards. Ideally, the channel moulding should be of the same thickness but don't worry if it is thicker, as this can be

an advantage. If it is fitted to the shelf ends with its top surface level with that of the top surface of the shelf piece, the excess thickness can then be planed away at the lower edge. It then follows that you have a thicker top tongue of the

ends with two narrow countersunk screws as shown at A in the cut-away section of the drawing. Holes are drilled through the bottom of the channelling and through which the screws pass to fit into the shelf ends. Be sure the screw



channelling than the lower, and as this top tongue carries the weight of the shelf, it should always be left in its entirety.

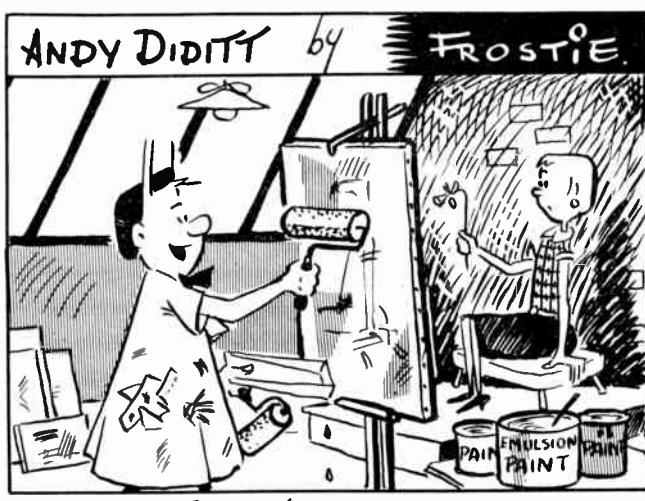
The moulding is fitted to the shelf

heads do not rise above the surface of the wood when finally fitted. Remember too, that the required total length of the shelf will include the two fitted ends of channel moulding.

The two screws fitted into each of the inner walls of the recess should be of the round head type and should, of course, be fitted into plugged holes. The screw heads should protrude just a little less than the depth of the channelling in the moulding, and it is important that the screws are fitted exactly level and at right angles to the upright corners of the recess.

Channels in plaster

There is another method of fitting supportless shelves. This is by cutting out channels in the wall plaster as far as the brick into which the shelf ends will 'sit'. It is, however, a rather messy job, particularly as you will have to make longer channels than finally needed in order to get the shelf into place. And these shelves cannot, of course, be removed, but they do look superior for not having any visible means of support. When you have the shelves in place, the excess channelling should be filled in with a mixture of four parts of sand to one of cement, in preference to refilling with a plaster mix.



"YOU KNOW MA?— IT'LL TAKE ANOTHER CAN OF PAINT TO FINISH THIS PAINTING OF YOU."

Project for the fretsaw

INDIVIDUAL PLANT HOLDER

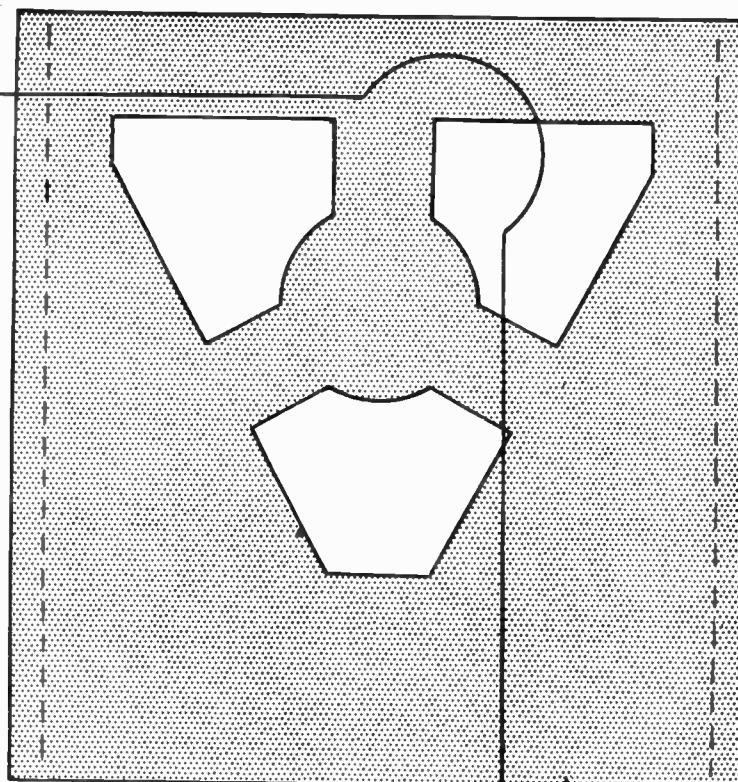


THIS little plant holder is so easy to make that it is quite suitable for a beginner. The parts A and B are cut from $\frac{1}{8}$ in. wood, using a fine grade fretsaw. You will, of course, need four pieces A and one piece B.

The corners are formed by using 4 in. lengths of Hobbies No. 45 grooved corner moulding into which the sides A

are glued. The base B is glued and pinned underneath.

Finish off by staining and varnishing or by painting. An undercoat should be used before painting, and a pastel shade is preferable to a bright colour. The frets in pieces A can be backed by coloured material glued in place. (M.p.).



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No. 4

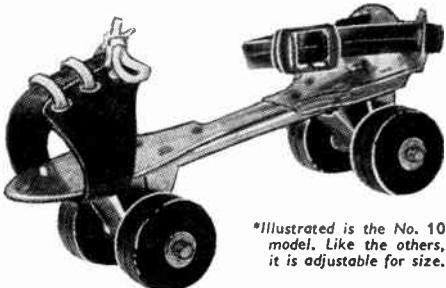
Senior model with double ball bearings and rubber composition wheels. Electro-plated with oscillating cushion. Very good skates, indeed.

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1A SPECIAL

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*Illustrated is the No. 10 model. Like the others, it is adjustable for size.

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