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THE ORIGINAL
'DO-IT-YOURSELF'
MAGAZINE

HOBBIES *weekly*

FOR ALL
HOME CRAFTSMEN

Also in this issue:

CHRISTMAS ANGELS
AND CUT-OUTS

COLLECTORS' CLUB
— NEW MATCH LABELS

MAKE A 'GUITAR'
THERMOMETER

NOVEL ORIENTAL
WIND CHIMES

BUILDING MODEL
RAILWAY BASES

ETC. ETC.

*FREE Plan
in this issue*

FIRE BELLOWS



Up-to-the-minute ideas

Practical designs

Pleasing and profitable things to make

5^p



DESCRPTIONS and illustrations of other Greek stamps in the new issue are given here to assist collectors. Part I was published last week.

Drachmae 3-50 — Rhodes

Rhodes, the largest of the Dodecanese Islands and one of the most enchanting in Greece, is also important for its antiquities. The old town is encompassed by the imposing mediaeval fortress, unique of its kind.

MORE STAMPS FROM GREECE

Of special interest on Rhodes — the evergreen 'Emerald Isle' with its cool climate and beautiful villages — are the ancient Greek towns of Lindos and Camiros; Filerimos with its mediaeval fortress; Callithea with its healing springs; the picturesque hill of Prophet Elias with its beautiful hotels; the 'Valley of Butterflies'; the big museum in the romantic street of the Knights — the edifices built by the Knights of St. John (14th-16th cent. A.D.) in a late Gothic style, etc.

Drachmae 4 — Epidavros

The ancient town of Epidavros lies near the east coast of the Peloponnese, which borders the Saronic Gulf, and was famed as the most important centre of worship of Aesculapius, god of



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Medicine and wonder-working patron of the sick.

A theatre, where performances were given to honour Aesculapius, was also within the sacred precincts of Epidavros. Having survived the lapse of centuries the theatre is in a fairly good condition today. It was built of local stone in the 4th century B.C. by the Argive architect Polyclitus; its seating capacity is approximately 15,000 and it has a circular orchestra. It is considered to be the most perfect ancient theatre by reason of its excellent acoustics and its situation amid the wonderful landscape that surrounds it.

Drachmae 4-50 — Sounion

Sounion is a steep cape at the south-eastern end of Attica. Its imposing beauty has inspired the poets of all times, including Lord Byron.

Athena was worshipped here as the Patroness of Attica; while Neptune — the god who could subdue or stir up the seas with his trident — was worshipped as their patron by navigators, who sailed on the constantly stormy waters off Cape Sounion.

The marble temple dedicated to Poseidon (5th cent. B.C.), solitary and imposing, set up high on the top of the cliff towering above the sea, overlooks the Saronic Gulf with the Cyclades and Aegean Sea in the background.

Drachmae 5 — Athens

This temple, dedicated to the father of all gods of Greek mythology, Olympian Zeus (Jupiter), was the most important of ancient temples in Athens and one of the most majestic in Greece. It was originally built in the Doric order in 530

B.C. in the reign of Peisistratus and completions in the Corinthian order were made in the 2nd Century A.D. by the Roman Emperor Hadrian, the great admirer of Greece.

Drachmae 6 — Delphi

This renowned archaeological site is 20 kilometres from the small port of Itea (Gulf of Corinth). With its bare mountains and craggy rocks (the Phacriades Rocks) towering up into the sky, it is one of the most imposing landscapes in the world. The ancient Greeks chose this unique spot for their most sacred and famed Oracle, that of Apollo, which influenced the fate of states and individuals alike for about 1,000 years (7th cent. B.C. to 4th cent. A.D.), and was the greatest sanctuary and spiritual centre of the world at that time.

Drachmae 7-50 — Ioannina

Ioannina is the capital of Epiros, in north western Greece. During the years under the Turkish yoke Ioannina was the cultural centre of Greece. At that time famed goldsmiths' and gold-embroidery workshops flourished there. Silverwork continues to be produced today.

The lake reflects the lofty citadel and Aslan's Mosque in its calm waters.

Drachmae 8 — Mount Athos

On the abrupt and picturesque part of the eastern peninsula of Chalkidiki towers the 'Holy Mountain' with its ancient community of monks founded in the 10th century.

St. Denys' Monastery (14th century) which is pictured on the stamp is built on a high steep rock overlooking the sea. Inside the monastery there are remarkable 16th century wall paintings.

Entrance to Mt. Athos, the administrative centre of which is the little town of Karyae (Protaton), is forbidden to women and children.

Drachmae 8-50 — Santorini

Santorini (or Thira) is one of the most interesting islands of the Cyclades where extraordinary landscapes have been created by its volcano and by earthquakes.

On the island — which in the Middle Ages was called St. Irene — there flourished a local civilization dating back to prehistoric times. The ruins of that civilization are buried under thick blankets of lava. Excavations have unearthed quite a few of those ruins, which reveal an unusually high artistic standard.

Drachmae 12-50 — Delos (not illustrated)
Close to the graceful island of Mykonos, in the Aegean Sea, lies the small island of Delos. According to Greek mythology Delos is the birthplace of the twin gods Apollo and Artemis (Diana), the children of Zeus and Leto.

HONG KONG

THE special \$1 stamp marking the Golden Jubilee of the University of Hong Kong was released on 11th September. The design, which includes the Royal Cypher and St. Edward's Crown, features the Coat of Arms of the University in full colour against a blue background.



LABELS IN CIRCULATION



Nos. 21-30 in the Australian match label series 'New Wild Life'

WAITING TO HEAR FROM YOU

For air labels and pendants, send to JULIUSZWISNIAKOWSKI, Warsaw 10, Ul. Hozo N 39 M. 112, Poland.

Those interested in camping and cricket should write to IAN LITTLE-DYKE, 12 Westfields, Worsbro Bridge, Nr. Barnsley, Yorkshire.

LYRIAN KEENY, Route 2, Box 112, New Freedom, Pennsylvania, U.S. America, would like to hear from someone living on a farm. Lyrian is 21 years old and enjoys writing to pen friends. She collects stamps.

DUNCAN MACDONALD of 10 Milton Terrace, Jamestown, Dunbartonshire, Scotland, seeks pen friends interested in photography, tape recording, dancing, cards and stamps.

I collect picture postcards and would

be interested in exchanging with other readers of your magazine,' says Mrs M. MELLOWS of 33 Northcote Road, Strood, Rochester, Kent.

MICHAEL BRITTON of 101 The Common, Staincross, Nr. Barnsley, Yorkshire, will answer all letters from friends who collect match labels, cigarette packets and stamps.

'I have been a regular reader of your magazine for years and always find it interesting,' writes GEORGE LIND-SAY, 4 Castleview Terrace, Torthorwald, Dumfries, Scotland. George collects stamps and postcards. He would like pen friends throughout the world.

'I have just started reading your interesting magazine,' writes Mrs F. KNIGHT, 74 Chestnut Avenue, Cowgate, Newcastle-on-Tyne, 5. 'I am a housewife with three children. But being crippled cannot get about much. So I collect picture postcards. I would like pen friends from all over the world.'

If you collect beer mats and seek a friend for exchange write to DAVID

GLOSBY, 8 Storeleigh Road, The Charl, Nr Oxted, Surrey.



W. J. HORNSBY of 149 High Street, Burton Latimer, Nr. Kettering, Northants, is fond of animals, collects stamps and labels, and would like pen friends throughout the world.



New Issues from Australia 'Match Labels' — 'State Crests'

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CHEMISTRY AT HOME

A LITTLE thought will show that many sulphates are as common outside the laboratory as in. Thus we have barium sulphate (barium meal for X-ray use), BaSO₄; calcium sulphate (plaster of Paris), CaSO₄·½H₂O; sodium sulphate (a laxative), Na₂SO₄·10H₂O; potassium aluminium sulphate (alum), K₂SO₄·Al₂(SO₄)₃·24H₂O; magnesium sulphate (a laxative), MgSO₄·7H₂O; ammonium sulphate (a fertilizer), (NH₄)₂SO₄. Modern detergents are also sulphates of high molecular weight alcohols. Hydrogen sulphate (sulphuric acid), H₂SO₄, is the most important of all; in fact, it is well said that a country's consumption of sulphuric acid is the measure of its prosperity. At one point or another it touches nearly every industry.

In the home laboratory a vast number of experiments can centre around sulphates. Without sulphuric acid itself a laboratory is crippled. The strong acid is a good servant, but a bad enemy. It burns the skin. Hence care should be taken with it. Any on the fingers should at once be flushed off with water, H₂O, and wet sodium bicarbonate, NaHCO₃, applied.

The strong acid contains about 98 per cent H₂SO₄ and is about 1.8 times as

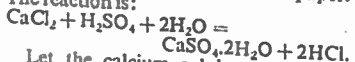
heavy as the same volume of water. For many experiments the acid is more conveniently used diluted with water. As the strong acid has a great avidity for water, evolving heat on contact with it, the dilution must be carried out by a definite method.

I—EXPERIMENTS WITH SULPHATES

A 10 per cent solution is a convenient strength for many uses. To prepare it, 5.4 c.c. of the strong acid are run into 100 c.c. of cold water. Note the 'run into'. To add the water to the acid would almost certainly result in the acid 'spitting' and a burnt skin. Stand the beaker containing the water in a pan of cold water. Add the acid about 0.5 c.c. at a time from a burette or measuring cylinder, stirring well (see diagram). The water grows warm and must be allowed to cool before adding more acid, or spitting may occur. Here is where the outer bath of cold water helps. When all the acid has been added, store the dilute sulphuric acid in a glass stoppered bottle.

Add a few drops of the dilute acid to solutions of various metallic salts. You will find that most remain unchanged, but in the case of calcium, Ca, strontium, Sr, lead, Pb, and, if you have any barium, Ba, salts (which are mostly very poisonous), white precipitates of the sulphates are produced. This insoluble sulphate test is used in analysis to detect these metals.

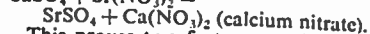
To prepare calcium sulphate in its hydrated form, CaSO₄·2H₂O, dissolve 2.7 grams of anhydrous calcium chloride, CaCl₂, (the porous lump used for gas drying) in 50 c.c. of water. Stir into this 24 c.c. of 10 per cent sulphuric acid. Filter off the white precipitate and wash it on the filter until it is shown to be free of hydrochloric acid, HCl, by one wash water not reddening blue litmus paper. The reaction is:



Let the calcium sulphate dry on a porous tile. This hydrate is similar in composition to gypsum and alabaster.

By heating any of these dihydrates to 110 to 120°C., plaster of Paris is produced. Heated to a higher temperature they lose all their water of crystallisation and then set only extremely slowly with water. Hence they are called 'dead burnt'.

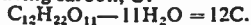
Though it is prepared by precipitation, calcium sulphate is not entirely insoluble in water. Shake up a little with some water, filter off the excess and add the filtrate to a solution of strontium nitrate, Sr(NO₃)₂. On standing, a white precipitate of strontium sulphate, SrSO₄, appears:



This proves two facts; one, that calcium sulphate is slightly soluble; two, that strontium sulphate is less soluble than calcium sulphate. If you were to shake strontium sulphate with water and add some of the filtrate to a barium salt solution, barium sulphate would be precipitated, which shows that though strontium sulphate is less soluble than calcium sulphate, it is more so than barium sulphate. These three metals have closely similar chemical reactions, but this progressive insolubility of their sulphates gives one means of differentiating them.

Let us try some experiments with sulphuric acid itself. It has been noted that the strong acid has a great avidity for water. In fact, this is great enough to withdraw the elements of water even from some molecules. Sugar (or sucrose), C₁₂H₂₂O₁₁, contains hydrogen, H, and oxygen, O, in the proportion to yield eleven molecules of water.

Put a pinch of sugar in an evaporating basin and add a few drops of strong sulphuric acid. The sugar yellows and quickly blackens owing to the acid withdrawing those eleven molecules of water and leaving carbon, C:



Paper, which consists of cellulose, (C₆H₁₀O₅)_n, is also converted into carbon in a similar way, but gentle heat is needed. The 'n' in the formula for cellulose indicates a variable number, but for simplicity we can write the equation thus:



This reaction will also occur with the dilute acid, yielding a secret ink. Make a pen from a feather by transversely cutting off the end of the shaft. With this write on white paper, using the 10 per cent acid. When the writing is dry it will be invisible. Now hold the paper in front of the fire. The writing suddenly appears in brown.

If the acid is somewhat diluted and only allowed to act on paper for a few seconds, the paper is not charred, but converted into parchment paper. Observe the same precautions as before.

● Continued on page 173

Preparing for the Festive Season

CHRISTMAS ANGELS



fasteners at points near the base and middle. The bent back points of the paper fasteners will be hidden inside the conc. Fix together the wings and arms with the third fastener, then use the same fastener to secure the two cardboard edges at the top of the conc. Bend back the wings and curl the arms around

By A. E. Ward

the front of the body. Curl the 'hair' imaginatively to frame the angel's face prettily. You may curl the individual strips around a nail or pencil. Mount the head upon the body by first curling back the torso and then fitting the part into the hole at the top of the conc. A small cork inserted into the opening will ensure a firm support for the head. Attach the halo to the back of the head, using Sellotape. Either cut out an angel's face from a suitable magazine illustration and paste this on to the blank face, or cut out

blue eyes and a red mouth in gummed paper and stick the parts in the proper places to suggest human features.

Decoration of the bare figure is important, but do not spoil the essential simplicity of your work by over-emphasis of detail. A delicate paper flower cut from a cake doily may be pasted to the breast or you may construct a frilly collar, as suggested in the illustration, and paste this around the neck.

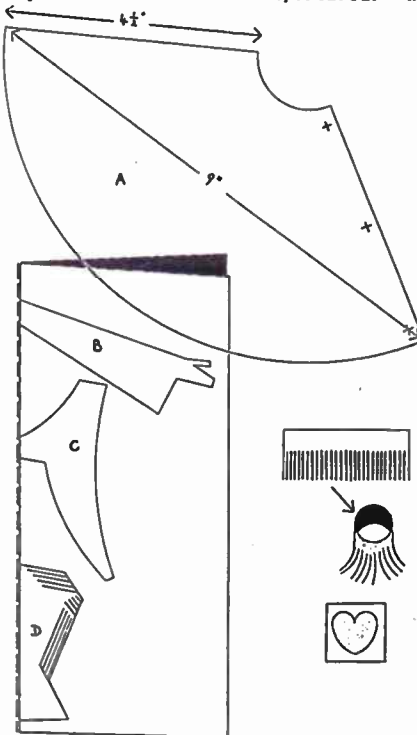
A charming touch is to cut out a large 'pip' heart from a playing card and to glue this to the left breast. Pips cut from miniature playing cards may be glued decoratively around the 'hem' of the figure's long dress. If you wish, you may make a singing angel and glue a minute book of carols in her hands. Don't forget a 'singing' mouth here. Stand up your Christmas angels where their silent message will be modestly but beautifully implied. Group some angel heralds around a single Christmas candle upon a soft carpet of white cottonwool 'snow'.

WHEN you create the gay display of paper trimmings and bright baubles to decorate your homes this Christmas, find a place for some angel figures. Purchase some sheets of thin coloured cardboard in dark yellow, red or bright blue and acquire some fragments of aluminium foil from which simple shining haloes may be fashioned. Make each angel along the general lines suggested, but incorporate original details of your own invention into each separate construction.

Use the accompanying patterns as a guide. Mark out a 9 in. wide segment of a 5½ in. diameter circle upon yellow cardboard and cut this out using sharp scissors to produce a shape which can be moulded into a cone.

Remove a ¼ in. deep 'bite' from the apex of the shape (see pattern A). Fold in two a small rectangle of red cardboard and cut out a pair of identical arms, with hands and long sleeves in the manner indicated by pattern B. Repeat this technique, using a piece of blue cardboard, to produce a pair of angel's wings, as indicated by pattern C. Yellow cardboard must again be used to cut out the face, hair and upper part of the torso. Note the parallel incisions which will later be curled up and outwards to suggest actual locks of hair. A halo is made by cutting out a 2 in. diameter foil circle and then making many minute cuts around the rim. You will need three paper fasteners to begin assembling your figure.

Fashion the conical body and secure the two meeting edges with golden paper



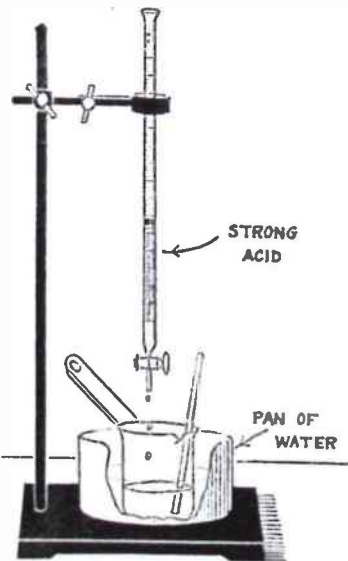
● Continued from page 172

SULPHATES

dilute 2 volumes of strong sulphuric acid by gradually stirring it into one volume of water. The temperature of the diluted acid must not be more than 16°C.

Wearing rubber gloves, dip a piece of filter paper into the acid for between 2 and 15 seconds, lift it out and drop it into a large volume of cold water, swirl it around and then pass it through two or three changes of water. Next put it into water made slightly alkaline with ammonia and finally wash it again in plain water before hanging it to dry.

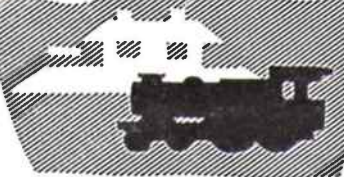
The paper will now be tough and similar to parchment. In the laboratory it is used in dialysis (separating colloidal from crystalline substances in solution). Ordinary paper consists of a mass of intermeshed fibres. The acid converts the outer layers into a gelatinous mass which fills the interstices, thus lowering its filtering powers.



Diluting strong sulphuric acid

NEW Thoughts
on

RAILWAY MODELLING



speaking most layouts will use a combination of the two types, partly covered and partly open top.

In the main, one should aim at getting the railway at several levels. A flat baseboard looks somewhat uninteresting and

CONSTRUCTION OF BASEBOARDS

By F. A. Barrett

even the slightest gradient at the back gives it more interest.

I am giving illustrations of the different types of baseboards, and also how to build embankments, cuttings, etc., and if you follow the instructions you should have no difficulty in making a good job of them.

You may think that I am putting the cart before the horse, 'so to speak, but I think you will find that before one

starts to lay tracks one must have the baseboard ready to lay it on. And with any type of trackwork, be it scale, or one of the proprietary brands, you must have a solid foundation if you do not want trouble later on. My own experience at exhibitions has proved this beyond doubt. The track must be level and firmly fixed in place if you want trouble-free running.

So let us consider the making of embankments and cuttings. In short these are built up on a wooden skeleton, with crumpled paper under a hessian or linnen covering. The whole thing is then covered with plaster and then coloured to suit the surroundings. If you follow the accompanying illustrations you should have no difficulty at all with this job.

The first thing to do is to set the gradient for the tracks. Get a piece of stiff wood, I use floor board, say 3 in. wide for a single track or 5 in. for a double track. This is supported by pieces of waste material to the framework of your baseboard, and there you have the

basis for the line and the embankment.

Let us first look at the drawings. Fig. 1 shows the usual type of solid top baseboard, that is to say it is covered by a layer of ply or whatever material we are using on our framework. Fig. 2 shows the open type top, or partially open top. In Fig. 3 we have the method for building embankments. I will now give you instructions for doing this.

We build up our framework in the usual way, decide where the embankment is to come, and proceed to cut out some formers to the shape desired. These do not have to be cut accurately, in fact the more wavy lines you have in them the better. And they need not be all the same. Naturally if the embankment tapers they will have to be made progressively smaller as one works along the part. The best way to hold these in place, where there is no support to fix them to, is to cut small blocks of wood, any size or shape as long as they will take a screw, say a 1 in. No. 8. These should be screwed into the framework, and to the former. They should be fairly rigid, and the formers should be spaced about 2 in. apart.

There are several ways in which we can make up the framework for the covering. I show two such alternatives in my sketches. One way is to put stringers into place, notching them into the formers. This makes for a very rigid foundation. Or you can stretch wire netting over the formers. A simpler method is to fill the spaces between the formers with tightly crumpled news or other softish paper. Screw it up in the hands, fairly tightly, and really force it into the spaces. I should have mentioned the provision of a backing piece along the back of your embankment. This should be wood, about $\frac{3}{4}$ to $\frac{1}{2}$ in. thick, and shaped on the top to conform with the contour you are working to.

The next job is the actual covering of the framework, and here again we have a choice of materials. I use hessian or muslin scrim. You could also use medical lint, placed with the fluffy side upwards. This material should be glued and tacked along the back of the embankment on the thick back support and allowed to dry thoroughly before anything more is done.

Now, if you are using the first method i.e. with stringers, you should get some newspaper and roll it up into tight balls, and place this on the framework in places where you want a little more contour. It is also advisable to cover the whole framework with a couple of thicknesses of paper to hide the stringers. Then you can pull the covering over the top of the formers and glue and tack down at the lower edge, once more leaving it to set before proceeding.

Then comes the interesting if some-

FOR YOUR LAYOUT



'OO' Scale background scenic effects. Full colour reproductions of typical British countryside. Set of 4 (each 8 in. by 22 in.) 5/6. B. J. Ward Ltd, 130 Westminster Bridge Road, London, S.E.1.

what messy job of adding the plaster. I use Polyfilla. I find that this is the best for the job, but do make sure that you use fresh material.

Add the Polyfilla to the water in the usual way. Make it more runny than

usual, but not too thin. We have to apply this with a brush to the framework, so this will give you some idea as to the consistency of the material. Brush it well into the hessian. Put plenty on, and if it is a little lumpy, it will not matter, in fact it will improve the appearance. Try to make the embankment look real — not smooth, but really rough.

When you have got the plaster on to the former leave it for a couple of days to really harden, and you will find that you have a good solid job, one that will stand a lot of wear. It is as well to improve the rugged look of the thing by gluing stones into place on your foundation. It all adds to the general effect, and makes the whole thing 'live'.

The assembly should then be painted. Any dull colour will do. There are on the market various types of flock powders and compounds for adding the scenic touch. I shall be telling you about these in a later article.

The method that I have outlined will be found useful for all types of modelling — tunnels, embankments, cuttings, ravines and many other similar formations.

TRIANG MINIC MOTORWAY

I HAVE recently received some products that will be of interest to readers writes F. A. Barrett. One of these is the Triang-Minic Motorway series, and this is a 'must' for modellers who want to add a little extra interest to their OO layouts.

It takes the form of model roads with little cars, etc. that are electrically driven to run along these roads. The detail in the cars is really terrific. Everything is there, from the headlamps to the tail-lamps. They run from a 12 volt battery or power unit, through a speed controller (not supplied), so that you can run these on the same unit you are using to drive your trains. All the roadway sections are interchangeable and may be assembled to form any shape.

There are straight sections, curves, crossroads, roundabouts and junctions, and as well as cars there are buses, coaches and a lorry. There are pavement and grass verge sections — in all a very interesting and entertaining collection.

Some of the items are not yet available, but I will give you news of these as and when they are on the market. Among the features that will be coming along is a very nice bridge, with gradients up to it, and it is so made that it will span any OO tracks, and with sufficient clearance for the trains.

I have no hesitation in recommending this to you. The little cars have beautiful proportions, and the motors are powerful and quiet in running. What could be nicer than to see a roadway running along the back of the railway with the cars moving along under their own power. The name of Triang Minic is an assurance of quality, and one last point — every part is replaceable, even to the little headlamps on the cars. So what more could you want.

LATEST FROM KITMASTER

Kitmaster have sent me samples of their Midland Pullman Power Car and Kitchen Car. We have already reviewed other kits in this range, and I have stressed the value, but in these two kits they have excelled themselves. They are perfect in every way, and complete with seats, tables and even the table lamps. When made up they are lovely models, and they are very easy to construct.

What a lovely train could be made from these components. The train would comprise two of each of the kits plus two parlour cars, which should be coming along shortly. Thus the train would have a power car at each end and two kitchen cars and two parlour cars. With a motor bogie at each end, you would have a wonderful train to show your friends.

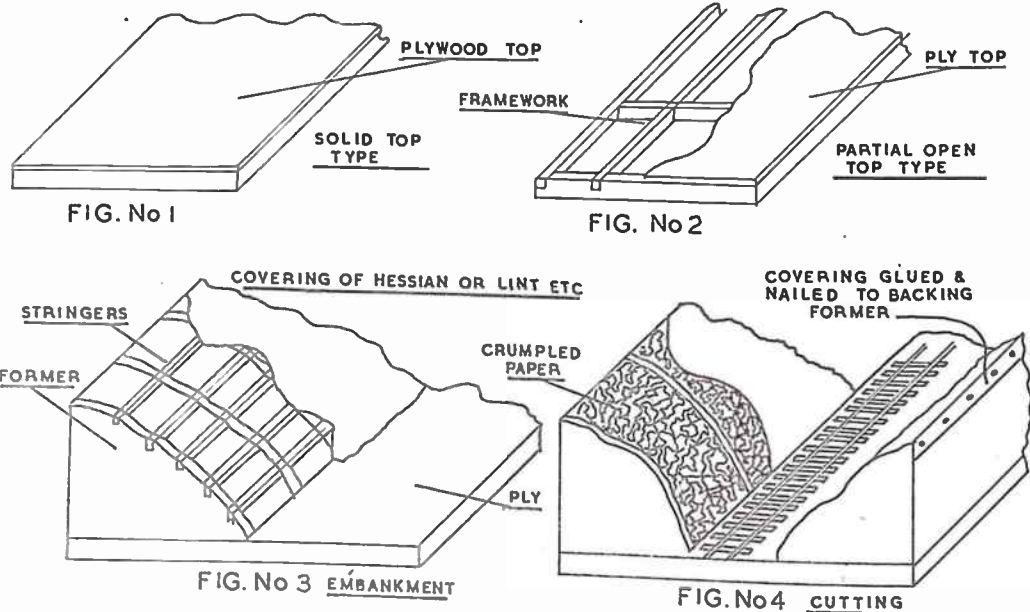




Fig. 1—Christmas tree and baubles

Christmas Decoration Cut-outs

fir tree symbol of Christmas, it is drawn freehand to obtain a rather free-and-easy interpretation, cut out and sanded smooth along the edges. The size can be whatever you care to make it; large for standing on the floor, medium for hanging on a wall or door, or much smaller for standing on a table, bookcase or sideboard.

Holes drilled in various places on the tree permit small glass spheres to be wired on the face. The wire is attached to the ring at the neck of each bauble and led through the hole. Drawing the wires

HERE is an opportunity to use cut out patterns, made with the fret-saw, as the basis of interesting and attractive Christmas decorations. In all cases, the most suitable material is 1/8 in. thick plywood, as this cuts and finishes well, yet has ample rigidity. If a number of similar decorations are required, several thicknesses of ply can be clamped together and cut out at the same time.

The first, and simplest, decoration is shown in Fig. 1. Based on the traditional



Fig. 3—Ivy leaf set-piece

By A. E. Bensusan

tight, and knotting them together, provides a secure grip. However, before finally fitting these parts, the tree should be painted, covered with coloured felt or sprayed with flock powder. This is available in a variety of shades in a 'squeeze' bottle from Hobbies Ltd, Dereham, Norfolk, price 3s. (post 6d.).

Trees which must stand by themselves need narrow plywood struts hinged, or glued at an appropriate angle, to their backs. Light picture hanging eyes may be fitted if the trees are to be suspended from a hook.

The same type of tree-shaped backing can be used for the neat decoration shown in Fig. 2 but, this time, no holes are required to be drilled in it. This item is intended to be stood on furniture, and will need a strut at the rear.

After painting, a small candle is stuck to the centre of the tree and various kinds of fir cones are also glued on around its base. The cones may be left plain, or some can be painted in bright colours. If a good quality adhesive is used, the cones will need only the minimum of contact with the imitation tree and with each other, yet the assembly will be perfectly rigid. Small bunches of pine needles, set below the cones and attached either with glue or by using 3 amp fuse wire, complete the job.

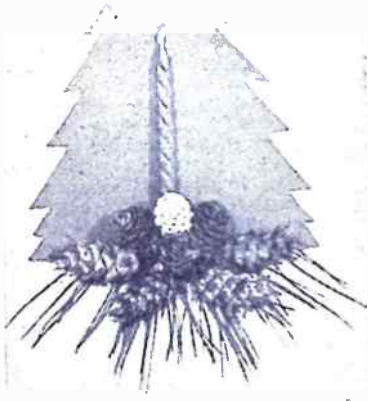


Fig. 2—The tree with fir cone base

Fig. 3 shows a simple table decoration which can be used as a centre-piece. Made in a smaller size, in sufficient numbers, it may be stood before each place on the festive table and will provide a splendid touch of colour in a highly original way.

The plywood base is cut to represent an ivy leaf and, after sanding, painted bright green. A pin passed through from below stabs the base of a coloured fancy candle, red being most suitable.

A small sprig of real ivy is led up the

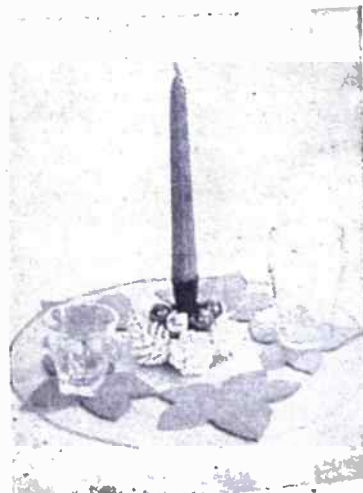


Fig. 4—A novel drinks stand

candle, and secured with a few dabs of glue, while some white-painted cones are stuck around the base of the candle. Small cones from a larch tree are ideal for this purpose when individual place setting decorations are made. A coloured, silvered glass bauble is attached above the cones with a length of fuse wire to finish the item.

A novel stand for glasses to be used at your party, or at any other time, is shown in Fig. 4. The cut out imitation ivy leaves are used again, this time stuck to a circle of plywood painted a different colour. The points of the leaves should overlap the edges slightly so as to break up the regularity of the circle.

A ring of painted fir cones is glued to

the centre of the baseboard, in such a manner that a small candlestick is trapped within. Glass baubles are wired around the candlestick, above the cones, and in a position which enables them to lie in the recesses between the cones. A red candle provides the final touch to a party accessory which is sure to charm your guests.

Some more Ideas for the Table

ATTRACTIVE table decorations for Christmas are very easy and inexpensive to make. Most of the examples shown here can be made in a few minutes, and it is just as easy to 'mass produce' them in batches of six at a time.

1. Small bottles such as miniature liqueur bottles, or even medicine bottles are used. Clear glass bottles should first be filled with red or green paint, which is then run out. The top half of each bottle is painted white, letting the paint run down the sides in places to represent icicles. Glittering frost flakes may be sprinkled on the paint while it is still wet. Small sprigs of fir, cones and holly leaves are held round the neck of the bottle by an elastic band which is then covered by a red ribbon. Lastly, a small red candle is inserted in the mouth of the bottle.

2. An upright piece of log about 3 in. in diameter has a series of holes drilled round the sides, near the bottom. Sprigs of holly and fir are inserted in the holes.

The top is covered with a thick layer of plaster filler such as Alabastine which is applied with the blade of a knife, left rough and allowed to run down the sides as shown. A small candle and fir cones are inserted in the plaster before it sets. A seasonable greeting may be written on the plaster in water colour.

3. Individual place markers for a party are made from small pieces of log

in plaster, with holly sprigs inserted in it while it is still wet.

4. Smaller place markers can be made by filling plastic containers such as ice-cube moulds with plaster filler, and inserting a candle and greenery in each. The names are written in ink or water colour after the plaster is removed from the mould.

5. An unusual decoration is made by covering a 6 in. square of wood with plaster filler and embedding a Father Christmas shaped candle in it at one end. Behind the candle is a large tinsel star, made by gumming tinfoil to a cardboard shape. Two 'trees', one on each side of the star, are fir sprigs, and a few cones and holly leaves are pressed into the plaster.

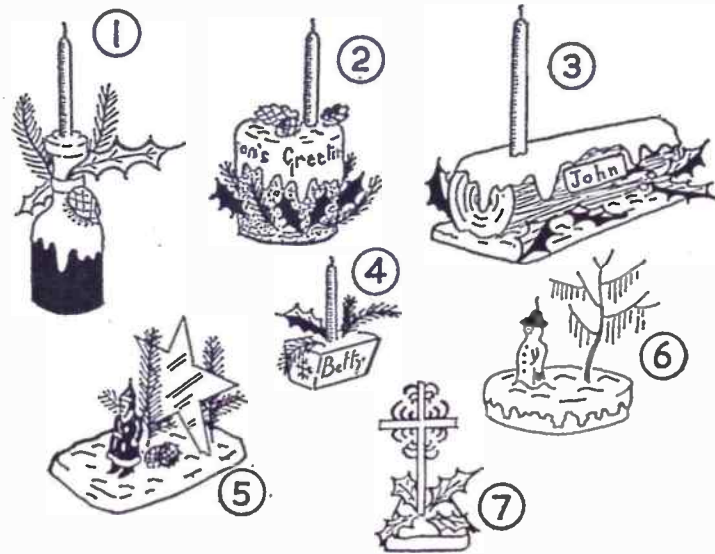
6. A simple but effective decoration is made by standing a snowman candle on a plaster-covered wooden base. Behind the snowman is a bare tree made from a suitable twig draped with shimmering icicles made from strips of tinfoil.

7. A popular Scandinavian decoration is a decorated cross of unpainted wood. The graceful tracery round the arms of the cross is formed by making shallow cuts down each side of each arm with a penknife, raising curled shavings in the same way as a plane does. The first cut on each side is the shortest, the following ones becoming gradually longer. This calls for some skill, but the same effect can be obtained by using plane shavings which are suitably curled, trimming and gluing them in place.

The greenery used in these decorations normally has the same length of life indoors as the Christmas tree itself, so the decorations should be made a few days before they are needed.

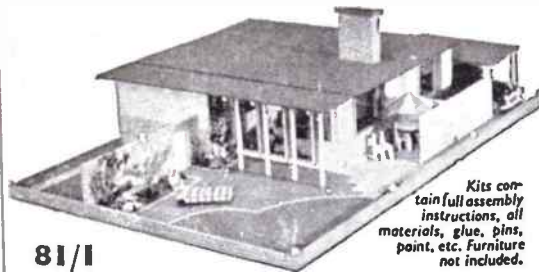
By A. Liston

pinned to bases made from scraps of cardboard, wood or hardboard. A panel of bark on one side of the log is cut away with a penknife, and each guest's name written in the space in coloured pencil or paint. A hole is drilled for the small red candle, and plaster filler 'snow' poured over each log. The base, too, is covered



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 * Who is she? Read the story in *
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81/1

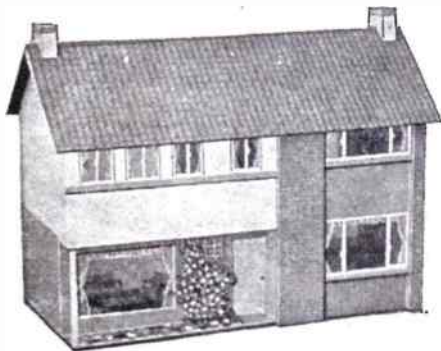
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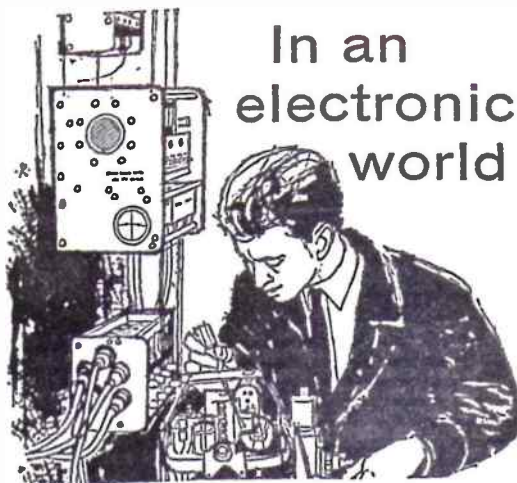
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Birds and Fish

TWO most delightful books have recently been received, and either would make a welcome gift according to the tastes of the recipient. One concerning 'British Birds' by J. Wentworth Day is illustrated by C. F. Tunnicliffe R.A. The other entitled 'Fish' has F. J. Taylor as its author, with illustrations by E. V. Petts.

They are written in an entertaining and colourful style by experts in their particular field and contain a mine of information. Apart from their value in identification and appreciation, the high quality reproductions of the many coloured illustrations reflect great credit on the printers.

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Published by Ward Lock & Co. Ltd, Warwick House, 116 Baker Street, London, W.1. — Price 17s. 6d.

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By Jack Airstrop

MORE people are keeping more pets every year. 'New' pets are being introduced every season. The swing to unusual pets may, in some measure, be due to the fact that more people now live in flats and find themselves unable to keep dogs or cats. This is a handy work of reference for all pet keepers. It gives advice on feeding and housing a wide variety of animals, birds, fish and reptiles.

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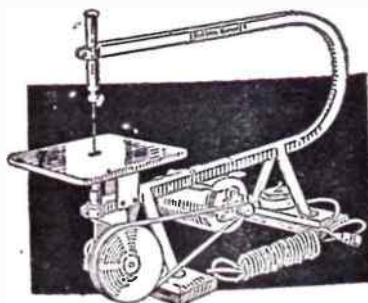
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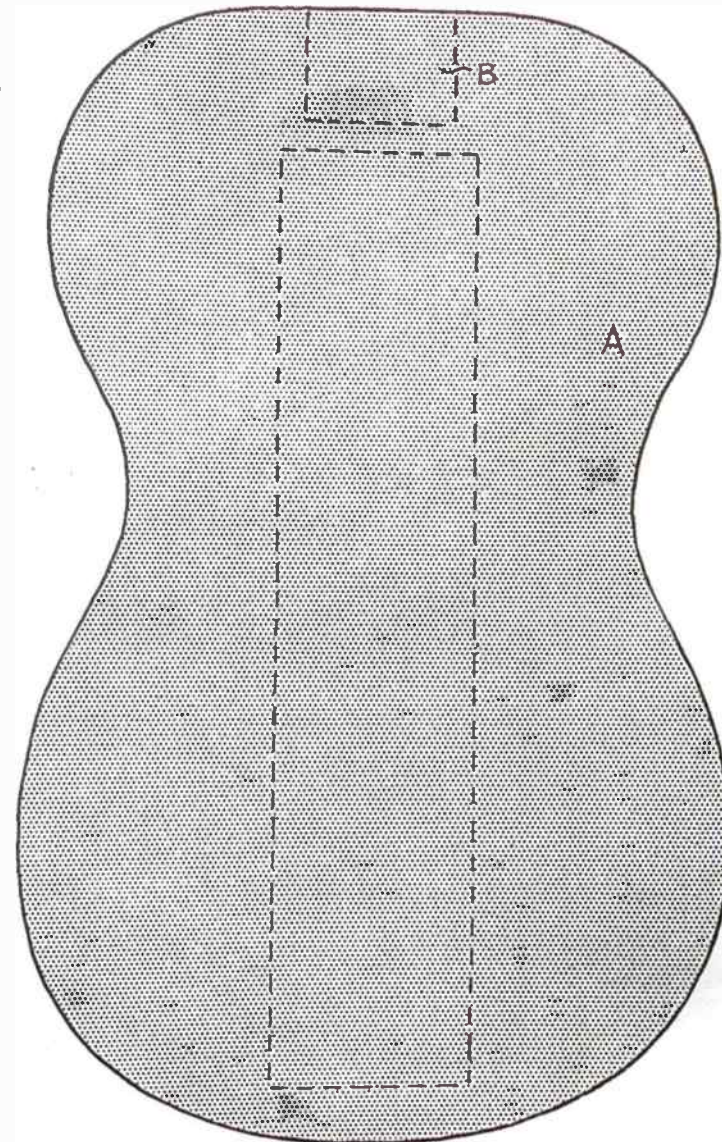
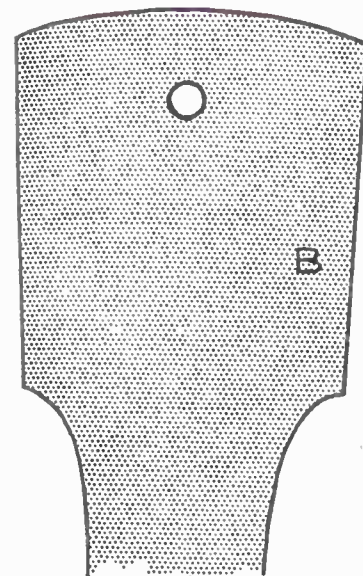


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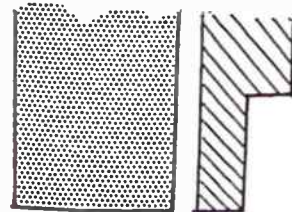
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THE 'GUITAR' THERMOMETER



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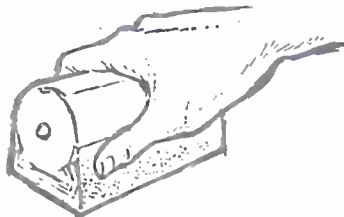
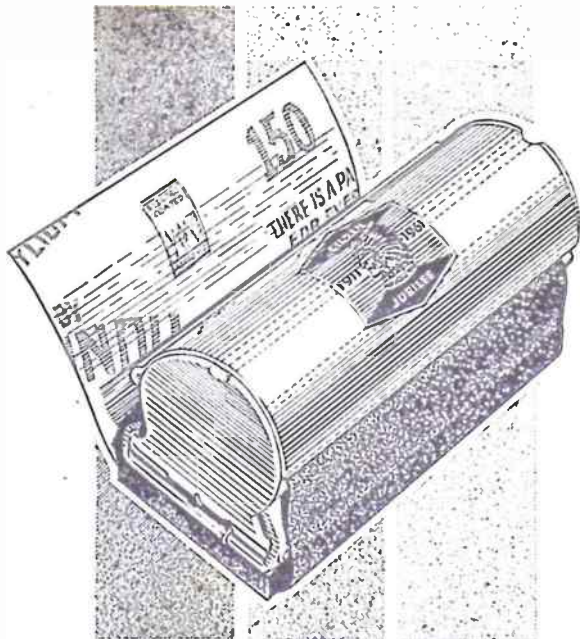
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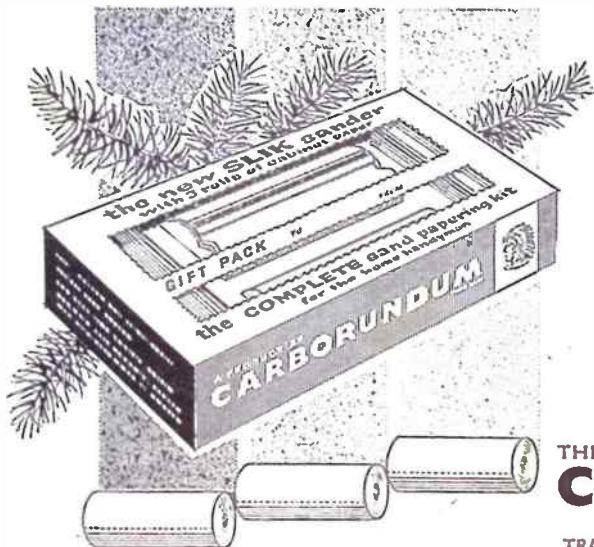
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HW DEC. 1961



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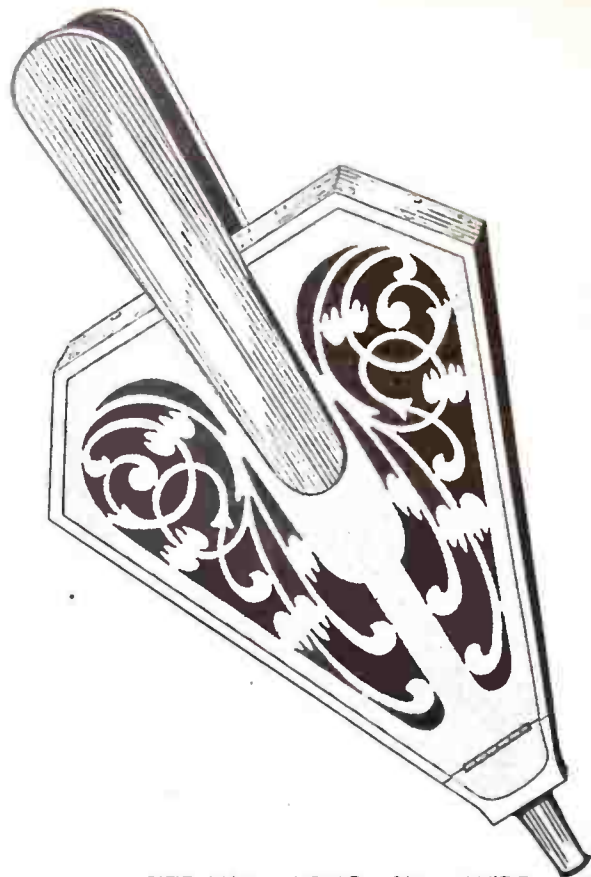
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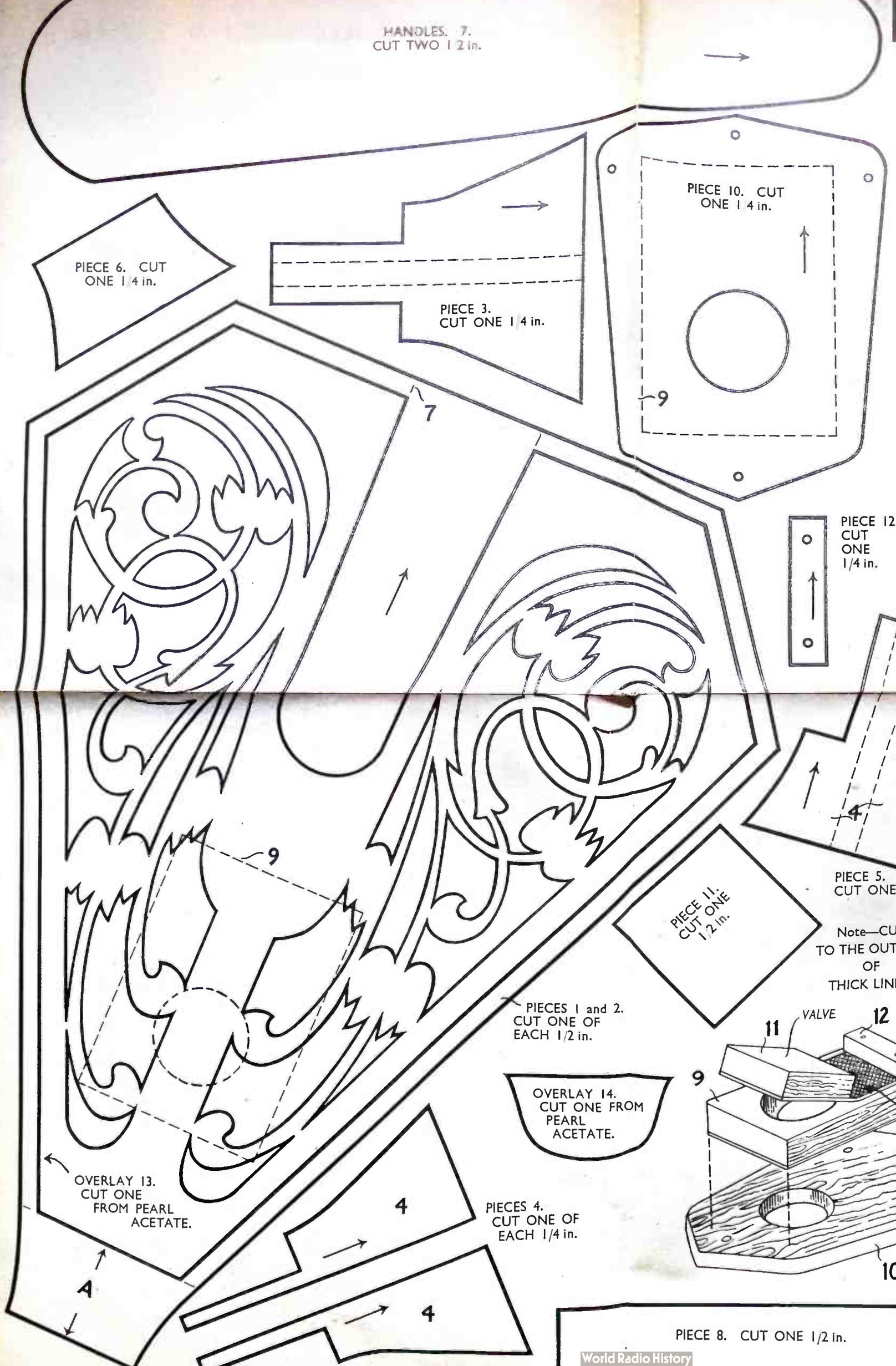
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PIECE 5. CUT ONE 1/4 in.

PIECE 11. CUT ONE 1/2 in.

PIECES 1 and 2. CUT ONE OF EACH 1/2 in.

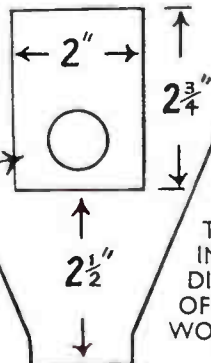
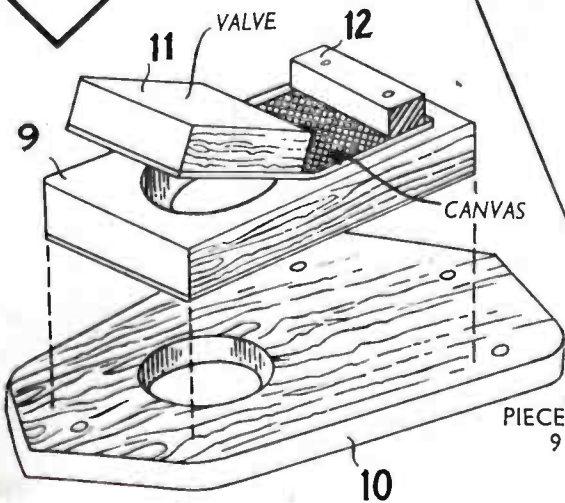
OVERLAY 14. CUT ONE FROM PEARL ACETATE.

OVERLAY 13. CUT ONE FROM PEARL ACETATE.

PIECES 4. CUT ONE OF EACH 1/4 in.

Note—CUT TO THE OUTSIDE OF THICK LINES.

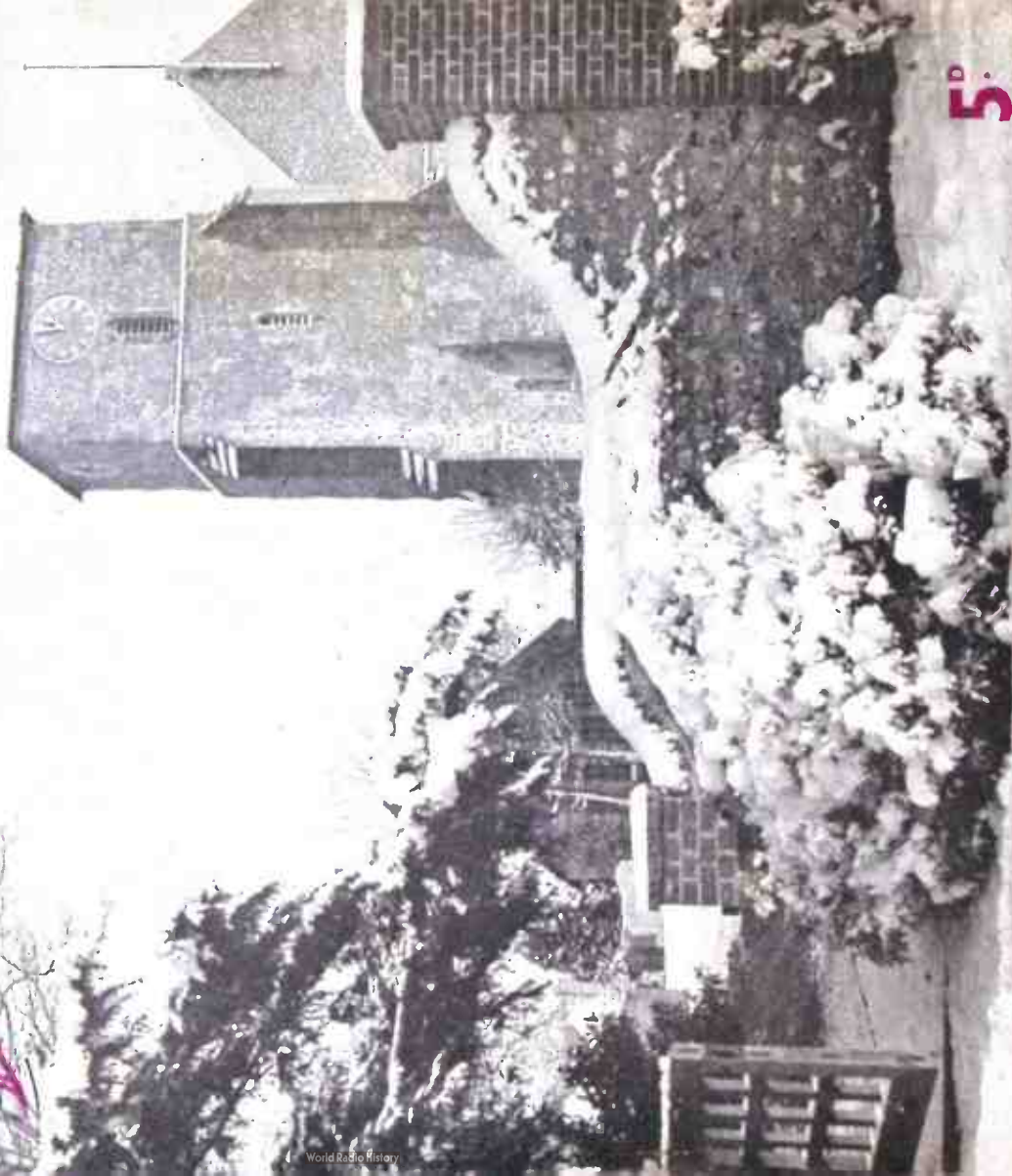
SHOWING HOW PIECE 9 IS CUT FROM PIECE 1.



THE ARROWS INDICATE DIRECTION OF GRAIN OF WOOD.

PIECE 8. CUT ONE 1/2 in.

HOBBIES *weekly*



World Radio History

20th DECEMBER 1961

VOL. 133

NUMBER 3445

5^D



FROM Russia comes this 'Gagarin' commemorative set of match labels. We suggest that philumenists open a special album entitled — 'Men In Space'. There will, obviously, be many more issues on a similar theme.



LIECHTENSTEIN 'DEFINITIVE' STAMPS
 THE current definitive series are to be continued until further notice. This set is worth consideration. Designs (illustrated) show: 'Haymaker in Alps' — 80 Rappen green. 'Work in the Vineyard' — 90 Rappen violet. 'Mother in her Kitchen' — 1 Franc red. A C.E.P.T. commemorative has also been issued.



FINLAND CHARITY STAMPS
 The 1961 charity stamps appeared on 4th September. Designs include the following animals: Muskrat — 10+2 mk. Otter — 20+3 mk. Seal — 30+5 mk. A special commemorative marking the centenary of the birth of the Finnish writer Juhani Aho (1861-1921) was released on 11th September.



I collect thematic stamps from the whole world,' says PAUL MILLERS, Latvian SSR, Tukums, Lenin Street 2-3A, Russia (see photo). Paul is also keen on records. He will answer all letters and will send Russian stamps in exchange for those sent to him.



Paul Millers

SURENDRA G. PANDIT, P.O. Box 3653, Nairobi, Br. East Africa, (see photo) collects coins, stamps, postcards and is keen on all sports.



Surendra G. Pandit

You still need pen friends? Then write to any of the following:
 UBAH AHGPREEBUZ, Oaeca, Normann, 40 Bocmpedobahua, Cemupuk, Russia. Stamps. Postcards.
 VICTOR CHERNOV, Schmidt St. 6-5, Rostorskor Obl., Shakhti — 10, Russia. Postcards. Stamps.
 Dr TAKACS TAMAS, Gyor, Revai U.5. Hungary. Match labels.
 HAAYE A. GREYDANUS, 5 Barrewier, Sneck, Holland. Match labels.
 IVAN A. SEMIRIK, Posto Rest-ante, Odessa, Russia. Postcards.



MAPS on stamps from foreign countries will be dealt with in this article. Surely one of the most unusual stamps in this category would be an issue with a map on the back.

'MAP' ISSUES

By L. P. V. Veale

Latvia can boast of that, or perhaps one should say a map with stamps on the back. In 1918 they were very short of paper so they printed the stamps on the backs of German military maps. The first illustration shows the stamp and beside it the back of another stamp

showing the map. These stamps are not very expensive.

Last time we started with the stamp showing the map of Australia and we mentioned how useless it was as a map. Well, the same remark applies to the map of Eire. There is no scale, no north point therefore no use. Another stamp the design of which is not much use now, but which years ago was probably quite valuable, is the Spanish stamp showing a very large part of the country of Brazil with the river Amazon mapped as of old. The stamp was issued in connection with the Iglesias Amazon Expedition.

Spain also issued an Air Stamp in 1926 to commemorate the Madrid to Manila flight. This was by no means an old map but is a very clear map of the east showing the route followed during the journey. Note that there are 16 towns marked. How many can you name without first looking at an atlas?



Rather a nice map is found on the 1949 stamp from Egypt to commemorate the anniversary of the death of Mohammed Aly. It shows the River Nile and the eastern end of the Mediterranean. Probably it is rather attractive because of its unusual shape. Egypt has issued other stamps of the same shape but most of them have been horizontal.

Quite a number of the foreign stamps with maps on them have a history to relate. Illustrated is a stamp with a map of an island, and if you look carefully you will see that the western side is marked 'Haiti' and all the rest is marked 'Dominica'. This stamp was almost the cause of a war between the two republics because Haiti accused Dominica of claiming far too much of the island. The stamp was issued in 1900 and diplomatic pressure led to the withdrawal of the stamp and the destruction of unsold stocks. It was not until nearly thirty years later that the controversy was settled. The republics signed their treaty of frontiers and to show that the whole matter was settled Dominica issued a stamp bearing a portrait of the President of Haiti and Haiti issued one showing the President of Dominica — rather a neat way of showing the whole world that all was well between them.

Other countries have also shown their thoughts or wishes concerning the lands that they would like to own. Argentina for instance, has for a long time cast envious eyes on the Falkland Isles and has issued two or three stamps showing these islands as though they belonged to her. First in 1936 there were stamps showing the map of South America — Argentina shaded in, also the Falkland Isles. Then in 1951 they issued the stamp showing Argentina and also the South Pole with the arc marked out, which the Argentine Republic assumed was hers. The area marked was from 25 degrees West to 74 degrees West. But Chile in 1947 had issued a couple of stamps and both of these were maps of the Antarctic showing Chile with her claims as from 53 degrees West to 90 degrees West. So there would appear to be some overlap in the wants of these two countries and our rights to the area.

The United States of America must certainly have a paragraph when discussing map stamps, although one always feels that they are rather overdoing the issue of stamps. Collectors are finding it too expensive to keep up with the tremendous number that appear. One of the most interesting of their many maps is the one which appeared in 1904 to commemorate the International Exposition held in St. Louis and also the purchase of Louisiana from France for £3,000,000 in 1803. The stamp shows a

● Continued on page 195

TRANSISTORS & COMPONENTS

 ★ In this series 'Radio Mech' will ★
 ★ describe the functions and uses of ★
 ★ transistors and components es- ★
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 ★ amplifier circuits will be given ★
 ★ later so that working equipment ★
 ★ can be constructed. ★
 ★ Readers are advised to keep ★
 ★ these articles for future reference ★
 ★ as they will cover most of the pro- ★
 ★ blems and queries involved in ★
 ★ using these components. ★
 ★ *****

MANY transistors are made up from three pieces of special semiconductor material rather similar to the crystal used in some kinds of crystal detectors. Junction transistors are most generally used, the materials being joined side by side. Earlier transistors were of point contact type, with two fine wires or metal points resting on a crystal.

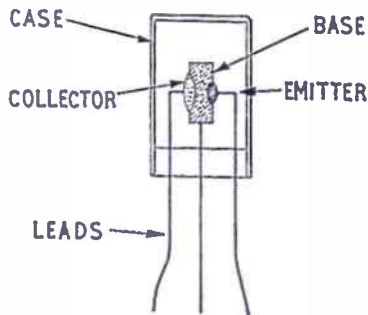


Fig. 1—A typical transistor

The junction transistor has the material formed into Collector, Base, and Emitter, as shown in Fig. 1. Leads are joined on so that the transistor can be connected in circuit, and the whole is enclosed in a sealed case.

How transistors work

The actual way in which a transistor works is very complex, but a much simplified explanation of the result will be helpful. Most transistors are P-N-P type, which means that the three layers of material are Positive, Negative, and Positive, in that order. (N-P-N transistors are also made, but not much used.)

In most circuits, the Collector receives a negative voltage from a battery,

and the Emitter is positive. The signal to be amplified is applied to the Base. When this small signal flows from the Base to the Emitter, it causes a much larger current to flow from the Collector to the Emitter. This is the same as if the small signal at the Base has resulted in a large signal at the Collector — that is, the transistor has amplified.

If the current is too large, heat is developed which will damage the semiconductor material. Transistors can work well with very low voltages (say 3V. to 9V.) and batteries of higher voltage than those intended should never be used.

If the supply is connected the wrong way round, a large current may flow, and this may also damage the transistor. It is thus essential that the battery is always connected the proper way. For similar reasons, the transistor Collector, Base and Emitter leads must always be taken to the proper circuit points.

Some transistors have small elements, and can only pass small currents. These are used in early stages, where the power is low. Other transistors can pass large currents safely, and these are for output stages, where a loudspeaker is fitted.

The transistor only works with a small delay. If this delay is too long for the frequency handled, the transistor cannot amplify. This means that a transistor intended for audio-frequency amplification cannot work properly in a radio-frequency circuit.

For best results, with any circuit, it is thus necessary to choose a radio-frequency (R.F.) or audio-frequency (A.F.) transistor, or one intended to handle the required larger current, for output stages.

Transistor connections

Most transistors have wire leads. Referring to Fig. 2, A shows a surplus transistor, and Mullard types, where a red spot marks the Collector lead C. The leads are in line, B indicating Base, and E showing Emitter. B is a Mullard output transistor for portables, etc, of different shape, with a metal case, but with red spot to show Collector.

C is a surplus transistor, available in various types, where the Collector lead is spaced farther from the other leads. D is an Ediswan transistor, with red spot as shown by the arrow. E is the small sur-

plus red spot type, for audio-amplification, with a red mark at the Collector side, as shown by the arrow. F is the underside of an Ediswan transistor where the leads are not in line, and an arrow or spot may also mark the Collector.

Some popular transistors for various circuit positions are:
 Radio-frequency stages: SB078, OC44, White Spot, XA102.

Intermediate-frequency stages: OC45, XA101, White Spot.

Audio-frequency stages: XA101, OC71, Red Spot, XB102, Yellow/Red Spot, Yellow/Green Spot, OC72.

Output: OC72, Yellow/Green Spot, OC81, and various larger power types.

For moderate outputs, A.F. transistors are often used in output stages. For larger outputs, two similar transistors may be employed in a push-pull stage. Connections for any of the transistors listed can be seen from Fig. 2.

Transistors may be soldered directly into circuit. If so, the leads should be left at least 1/4 in. long. The soldering iron should only be kept in contact with the joint for a second or so, and should be removed as soon as the joint is made. If care is not taken, heat may travel up the

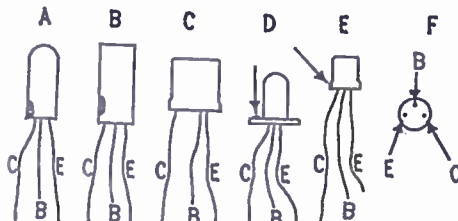


Fig. 2—Transistor connections

wire into the transistor, and damage it. This does not mean that great skill is required when soldering — but the joint should be made quickly, and let cool.

Transistors may be fitted in holders, which grip the leads. In this case, the transistors are only inserted when construction is finished. The transistor leads may then be cut fairly short, if necessary. Normally, it is as well to leave the leads reasonably long. The wires should not be bent very near the transistor, or they may break.

Components

Transistor receivers are constructed with ordinary radio components, as used for valve sets; but various specially

made small parts are available, and are used so that the receiver can be as compact as possible.

Some frequently used items are shown in Fig. 3. Resistors may have the value marked directly on them, as at A. Here 2.7K is 2,700 ohms, because K indicates 'Thousands of Ohms'. Values under 1K (1,000 ohms) may be marked with the Ohm sign.

Most resistors are colour coded. The Colour Code is as follows:

Black	0
Brown	1
Red	2
Orange	3
Yellow	4
Green	5
Blue	6
Purple	7
Grey	8
White	9
Gold	5 per cent.
Silver	10 per cent.

Resistor B has four bands — three to give its value, and the last (silver or gold) to show that it is within 10 per cent or 5 per cent of its marked value. The colours are read from left to right, silver or gold being last.

Resistor C has body, tip, and dot colours, which are read in that order. The remaining tip or end is silver or gold, for the reason above.

Resistor D has body, tip, and dot colours, except that the dot has become a band right round the resistor. It is read the same as resistor C. When there is no silver or gold marking, this shows that the actual resistor value is within 20 per cent of the value marked on it.

When reading a resistor, the first colour gives the first significant figure. The second colour gives the second significant figure. The third colour gives the number of noughts. A few examples will make this clear.

- Red/Green/Red: 2,500 ohms, or 2.5K.
- Yellow/Purple/Orange: 47,000 ohms, or 47K.
- Orange/Orange/Orange: 33,000 ohms, or 33K.

Fixed condensers often have the value marked directly. E is 0.1μF or 0.1mfd. Small values are given in pF, and F is 100pF. This is occasionally given as μμF, so 100pF and 100μμF, or .0001μF would all be the same.

Electrolytic condensers have positive and negative signs, or a rim to show the positive end, as at G. All condensers

 ★ One of the best jazz pianists of the ★
 ★ day — yet known chiefly on hit ★
 ★ records as a vocalist. Who is he? ★
 ★ See next week's Disc Break. ★
 ★ *****

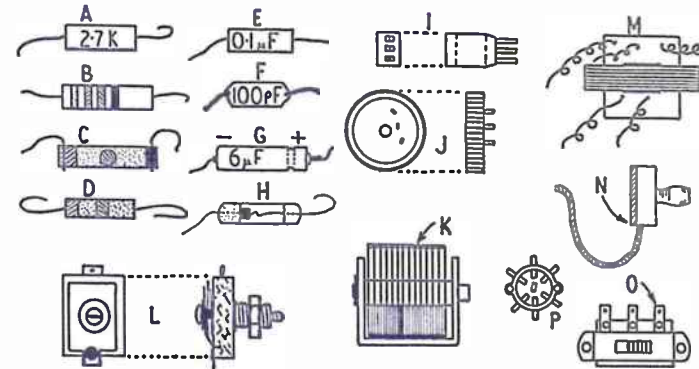


Fig. 3—Components for transistor receivers

may have the 'voltage working' rating marked on them. This may be simply given as voltage (9V), or may be followed by 'V.W.' (9VW). Many condensers are of extremely low voltage working, as this allows them to be made smaller.

H is a diode, used for detection and other purposes. Its positive end is marked red. It should not be overheated, when soldering it into circuit.

A transistor holder is shown at I. This part may be fitted in a small hole, or may be fixed to a panel with adhesive, or it may be supported by the wires soldered to its pins. Care must be taken to insert the correct transistor leads into the sockets.

Volume controls

J is a very small volume control, usually employed in values between 5K and 50K. It can be secured with a very small bolt, or can have its milled rim projecting through a slot, for finger-tip operation.

The usual volume control has a slider, which passes along a fixed resistance element. There are thus three tags — one for each end of the element, and one for the slider. If the circuit only needs an adjustable resistor, only two connections are needed. One goes to the slider, and the other to one end of the element.

Ordinary volume controls, fitted with a knob, may be used instead, when the minimum possible size is not required. Ordinary volume controls, and the type shown at J, may have an internal on/off switch. Extra tags are fitted for this, and the same item then acts as on/off switch as well.

K is a miniature air-spaced tuning condenser. These can have a very short spindle, centrally tapped, so that a thin, flat dial or knob can be held with a 6 BA screw. Or the condenser may have a short, 1/4 in. dia. spindle, to take an ordinary control knob.

Full-sized air-spaced tuning condensers may be used instead, if space is available. Solid dielectric type condensers may also be used. These are small, but slightly less efficient than the air-spaced condensers.

For very small sets, compression trimmers like that at L may be used. The one shown has a fixing bush, with nut, so that it can be secured to the panel. The long central screw will take a small knob, for manual tuning. Such condensers are really designed to adjust with a screwdriver, from the other side.

Miniature transistor transformers may have wire ends, as at M. If so, the various connections are identified by the colour of the leads. These leads should not be cut too short, or pulled. Some transformers have small pins, identified with coloured dots. The transformers may be used for coupling between stages, or for coupling a loudspeaker, etc.

N is a miniature personal earpiece, with thin flexible cord. It can easily be carried, with a miniature receiver. Ordinary phones, or a single headphone with a twin flex lead, can be used instead.

C is a small slide switch, which can be used for on/off purposes, or wavechanging. It is usually bolted down, with its slide knob projecting through a slot.

Another type of switch is shown at P. This is an extremely small wafer, and it is operated by a flat section on a tiny spindle fitting into the central slot. Two or more wafers may be fitted one behind the other, and worked by a single spindle, if necessary.

It will be realized that ordinary, full-sized parts will give the same results, and that the small or miniature type of component is only used so that the completed receiver can be very compact.

The next article in this series will give some circuits for one transistor, to which it will be possible to add further transistors later.

Out with a camera

SNOW PHOTOGRAPHY

If you usually store your camera away at this time of year you are missing glorious opportunities of taking snow pictures. Snow gives an entirely new appearance to even commonplace subjects and pictures may even abound in your own garden, just around the corner or in the parks.

By S. H. Longbottom

When grasses become frozen they take on an unexpected gleam in the sunlight and we cannot overlook the many activities associated with this time of the year such as the building of a snowman, skating or tobogganing. But you have to be prepared, working quickly before the pleasant looking snow has turned into a grey, dirty slush and there are some advantages in the low, subdued sunlight.

If there is any secret at all about snow photography it is that we should favour short exposures with cross sunlight as much as possible, but let us expand on these two points. The main difference between photography with snow on the ground and summer photography is that a white carpet of snow combined with that on the trees or buildings brings with it an increased range of brightness. In summer, although the light is brighter, much of this is absorbed and the subjects are virtually darker in terms of reflected light. So where we normally expose for 1/50 sec. at *f*/11 for summer pictures we should reduce this by half to 1/100 sec. at the same aperture or 1/50 sec. with the aperture reduced to *f*/16.

When we refer to cross lighting we mean that we should select a viewpoint where the sun will be shining at right angles to the camera position. Not only are interesting shadows thus thrown across the picture but we also capture the texture of the snow, emphasizing all the tiny undulations of the surface. Remember that winter sunlight is much weaker and failure to make use of cross lighting as much as possible will only produce dead, white foregrounds with little form or detail. And this is the usual reason for disappointment. Be patient and wait for the sun to create the right conditions and shadows, then carefully position the camera so that the sun is either to the right or the left.

When is the best time for snow pictures? You will find that the longest shadows are cast early in the morning or



Happy moments captured on film

late in the afternoon. Incidentally, you are recommended to use a lens hood to counteract the glare of low sunlight.

So far as processing is concerned we must mention that it is detrimental to overdevelop, as the fine shadows composing the texture will become clogged, making a correct rendering difficult.

Some will say that a filter is advisable while others specify a special kind of film. Let us examine these two factors. The shadows in the snow incline towards blue — and this is most apparent in colour photography. If you use a yellow filter you will only make them much darker with consequent increase in contrast and loss of texture. So you will be well advised to reject the use of a filter. Nor do you need a fast film for this type of work. In practice you will find that Selochrome films are quite suitable.

There are some other remarkable features of snow photography worthy of attention due to the fact that the scenes are constantly changing. This may be due to the winds and heavy drifting. You

will discover trees assuming an outline of snow on different sides, depending on wind direction at the time of the fall. Even the little bird sanctuary in your own garden will look attractive when snow covered, cracks and deficiencies having disappeared.

Falling snow 'trick'

When the snow is actually falling things become a little trickier for there is usually no sunlight at all and the skies are leaden. At the same time there is no reason why we should not make an attempt and if we fail we can always resort to a little trickery.

A 'snow' negative can be made on a piece of clear celluloid, equal in size to the genuine one to be used, probably of a straight snow scene. This celluloid is sprayed with an opaque colour such as Indian ink or it can be spattered to produce a covering of small dots. Damp a toothbrush with the colour, releasing the surplus on an old newspaper and then draw a nail across the bristles towards

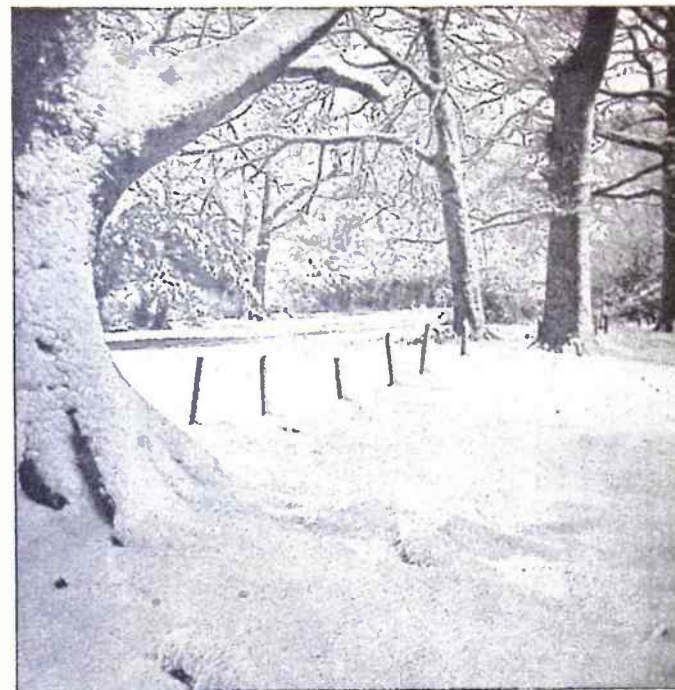
you. This will discharge a fine spray of ink which if applied to the celluloid will make a spotted negative. When printing the picture the two are placed together in the enlarger carrier to produce a picture of falling snow, since the black dots are represented by white.

It is an advantage to sandwich one or two more pieces of clear celluloid between the genuine and the snow negative — the latter being on top — to produce a natural, blurred effect. Printing is otherwise quite normal but the results are usually fascinating and well worth the experiment.

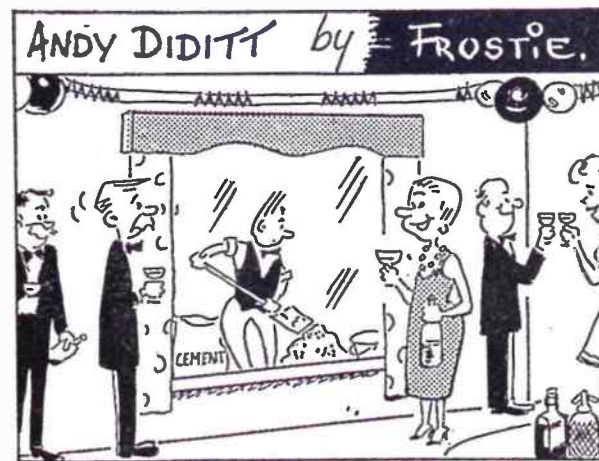
The next time there is a snowfall make some careful observations of your own garden and then try a few exposures on the lines indicated. Or take a few shots of your friends. The latter should be real winners, providing glimpses of happy scenes.

There is one other thing that we may mention about snow photography and that is the advantage of toning. Admitted, this is entirely another subject but nearly all snow pictures may be toned blue with every certainty of success to give most pleasing effects. And that gives you a further opportunity for experimenting with snow photography.

The photographs accompanying this feature, including that of Willingdon Church, Sussex on the front, are on Ilford Film.



In the Surrey hills



"THAT'S WHAT I LIKE ABOUT ANDY — HE'S A GOOD MIXER."

A Sincere
Christmas
Greeting
with
Best Wishes
to all
Hobbyists

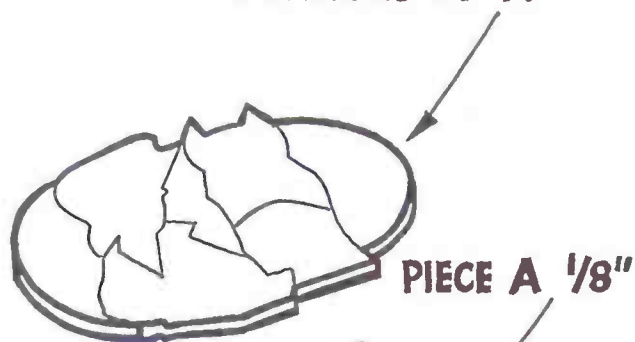
Tiny Tots'



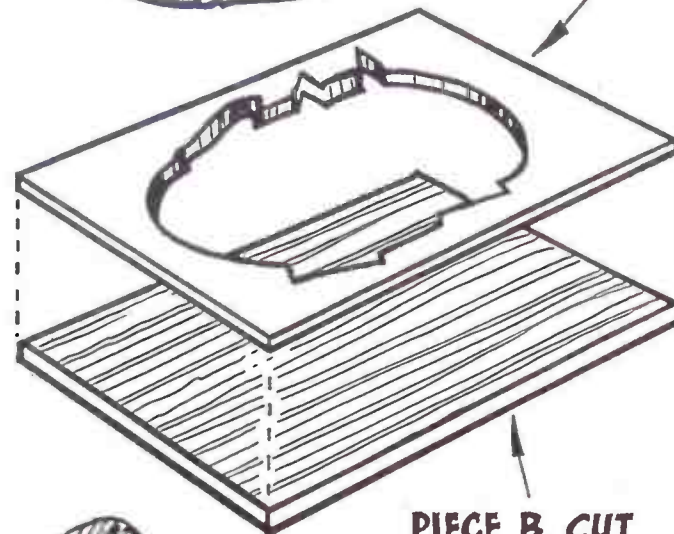
1ST

PUZZLE

CUT OUT PORTIONS OF A

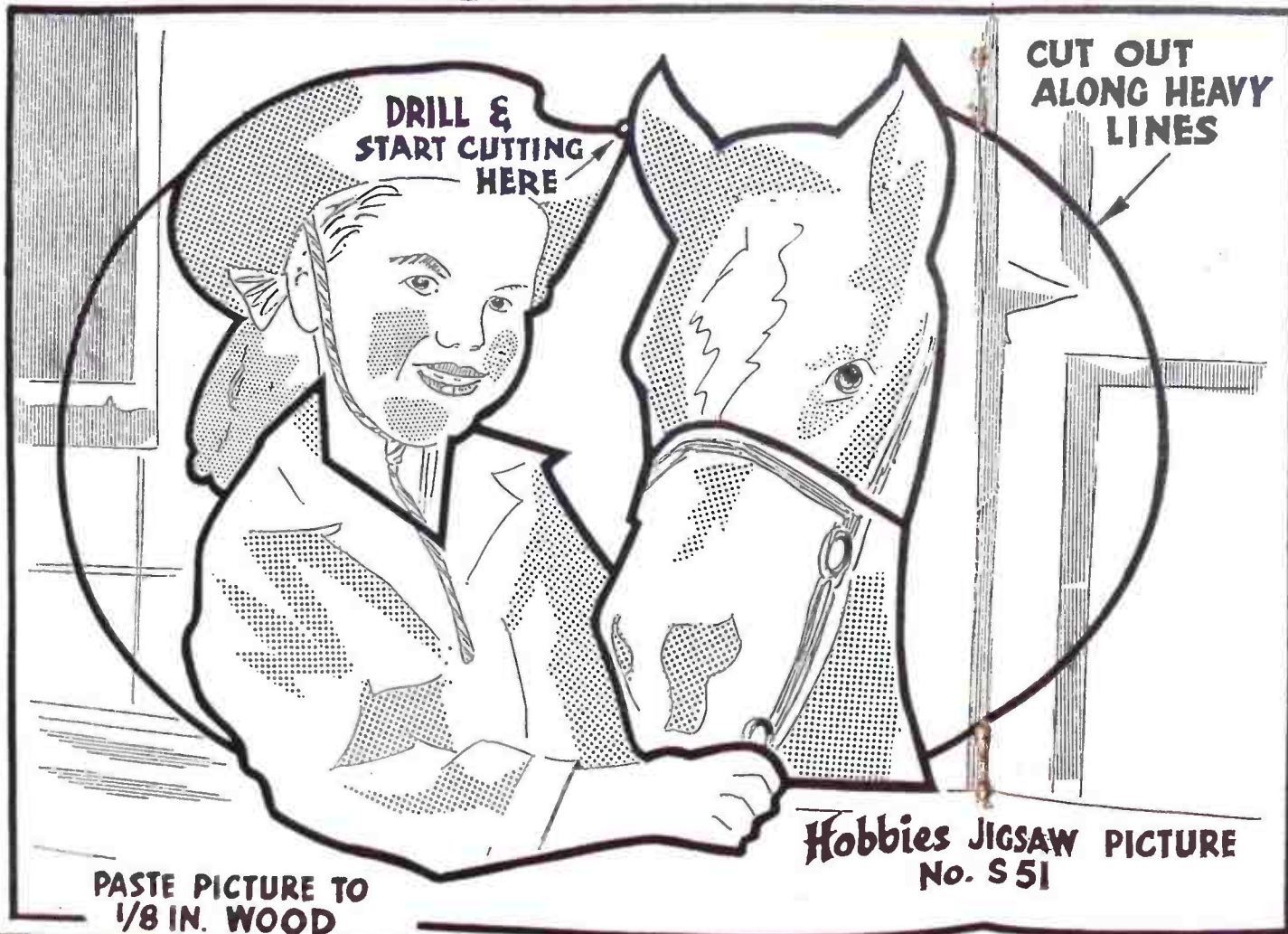


PIECE A 1/8"



PIECE B. CUT ONE 1/4" TO OUTLINE OF PICTURE

* GLUE A TO B AS SHOWN. LEAVING CUT OUTS FREE FOR JUNIOR TO ASSEMBLE



DRILL & START CUTTING HERE

CUT OUT ALONG HEAVY LINES

Hobbies JIGSAW PICTURE No. S 51

PASTE PICTURE TO 1/8 IN. WOOD



NOVEL METHOD IN MARQUETRY

By H. Stewart

 ★ Fretsaw workers, particularly ★
 ★ those with jigsaw cutting expe- ★
 ★ rience, will be keen to try ★
 ★ their hand at this method of ★
 ★ picture and map making. At the ★
 ★ end of the 3-part series the ★
 ★ author will describe how to cut ★
 ★ with a slight tilt on the saw- ★
 ★ blade, thus giving a 'wedge' fit ★
 ★ to the various pieces. ★
 ★ *****

VERY often we will find the ornaments in our homes quite straightforward and ordinary — such things as paintings, photographs, models, etc. — where, though the theme may be unusual, the medium used is perfectly orthodox. Why not have it the other way round? Treat an ordinary

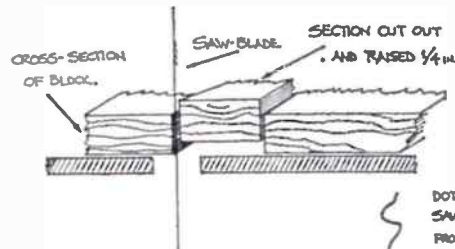


Fig. 1—Illustrating the raised section

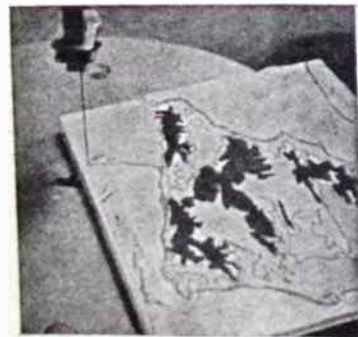


Fig. 2—A map of Spain in the preliminary stages, cutting from the outside inwards

The finished article, showing the effect of high land represented. The colouring of the outline must be such that it stands out clearly against the background, and the design should be easily recognizable. Notice the 1/4 in. steps.

subject in an unusual way and the result will often be striking.

Here then, is a method of transforming a map, picture, portrait or anything into something a little out of the ordinary. And since the map is the easiest form in which it can be grasped, I will proceed to apply this principle to the map.

The intention is to raise the high ground of a map above the lowland, and to do this you simply cut along the contours which are pasted on to a block of wood and push the highlights through so that they are literally raised above the rest. The effect as used on a map of

Spain can be seen in the main illustration where the three steps — lowland, medium height and highland — are shown in rises of 1/4 in. The method is further shown in Fig. 1.

First, you must choose your design. It should be

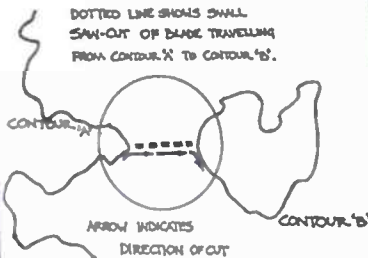
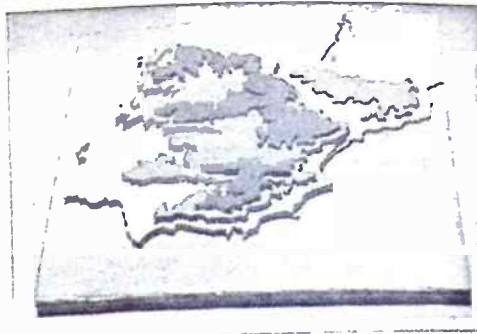


Fig. 4—The invisible saw cut—simply a convenience.

clearly recognizable, and it is as well to choose one that is of an island or a peninsula, so that the land will stand out distinctly from the background. In this article, I have used the peninsula of Spain and Portugal as being particularly illustrative, but the British Isles would do just as well. The size should not be much over 60 sq. in. in all, or else it becomes too large to manage and much of the effect is lost by spoiled work.

Now, having chosen a map, trace it on



to some paper, being particularly careful to add only the essential contours so that there are no more than 5 steps of land from the lowest to the highest — any more will complicate the issue. Then you must select a piece of wood the same size and about a centimetre thick of a sort that is practically grainless. Plywood will be found to break apart in the more

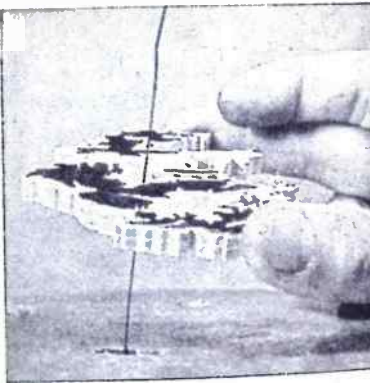


Fig. 3—Threading the saw-blade through the hole. Here we are about to cut out the highest land from the middle-height. The black on the glued-on paper represents the highest land

intricate cuts. Boxwood is the ideal wood for the purpose, but I use obeche as the next best thing. Stick the paper with gum arabic or any soluble glue to the block as flat as possible, and allow to dry thoroughly.

The question of tools now arises. You merely need a treadle fretsaw, infinitely preferable to a hand-operated one; a sharp knife for touching up at the end, some powder paints or lacquers, and a set of balsa cement. Then you are all set for the cutting, which can be tackled in one of the two ways — working from the outside inwards as shown in Fig. 2 or the inside outwards.

Each presents an individual problem. Even so, there are certain cardinal 'musts' in both.

The saw-cut must be exactly perpendicular to the plane of the saw-table; great care in the composition of the picture must be taken, so that not only are all irrelevant lines excluded but also that no lines come so close together for a break to occur; the blade should be a Hobbies' OO, the finer the better.

Both ways present the problem of how to get the blade from one contour-line to another. Obviously contours do not join; so there are two methods of doing this. Either you drill a hole or cut across. In the first instance, you drill a small hole in the wood, about 1/32 in. on the contour along which you are next going to cut. Place the hole carefully in as unobtrusive a place as possible, and it must be filled in with plastic wood afterwards. The snag which immediately arises is how to get the blade to run vertically when threaded through the hole and fastened up again. The answer is, by trial and error: But, if before detaching the blade you note exactly where on the clip the tip enters, you can

Continued from page 187

'MAP' ISSUES

map of the U.S. with the purchased territory shaded.

Then of course there is the American stamp commemorating the opening of the St. Lawrence Seaway — a similar design to the Canadian stamp showing the five Great Lakes, having 'U.S. Postage' instead of 'Canada'. The U.S. Air mail stamps of 1926 and 1927, the latter commemorating Lindbergh's Transatlantic flight in 'The Spirit of St. Louis' both have maps on them. Then the later issues for the North West Territory, the Everglades National Park, Alaska, Wisconsin and so on all have maps which are necessarily so small that they cannot tell anyone very much.

On the occasion of the hundredth anniversary of the founding of the Commonwealth of Liberia there was issued a relief map, really a view of what one might like to be able to see from an aeroplane. As the distance along the coast is some 350 miles that is why we say 'might like to see'. Another relief map is on a stamp from Panama. It shows the Canal. The only thing to remember with this stamp is that Colon is on the Atlantic side and Panama on the Pacific. Looking at the stamp one might easily be confused.

Now these two articles have not by any means exhausted the supply of map stamps. We have only tried to show that these designs are particularly interesting. Have a look through your own collection and see how many maps you have.

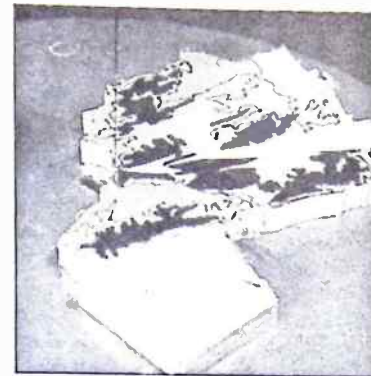
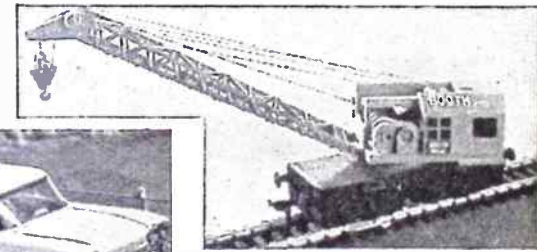


Fig. 5—Arrow indicates the small saw-cut from the edge of one piece to the contour line of the next. If carefully placed, it should not be noticed.

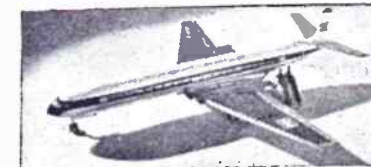
replace it in the same position and it should run true. Fig. 3 illustrates how to

Below: Dinky Toys 'Ramblor'. Meccano Ltd. 6/3

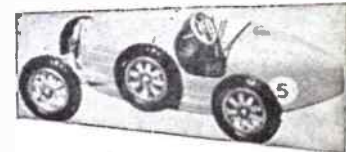


Above: British Railways 15 ton diesel locomotive crane. Fully working in 'OO' and 'HO' scale. Airfix construction kit 3/-

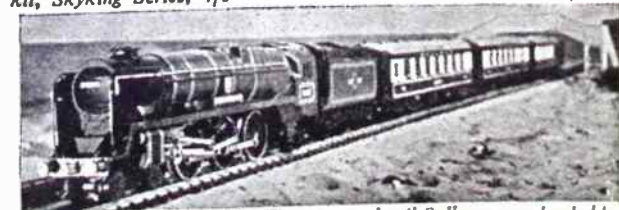
KITS AND MODELS IN THE SHOPS



BEA Comet in the new 1/144 scale. Airfix kit, Skyking Series, 4/6



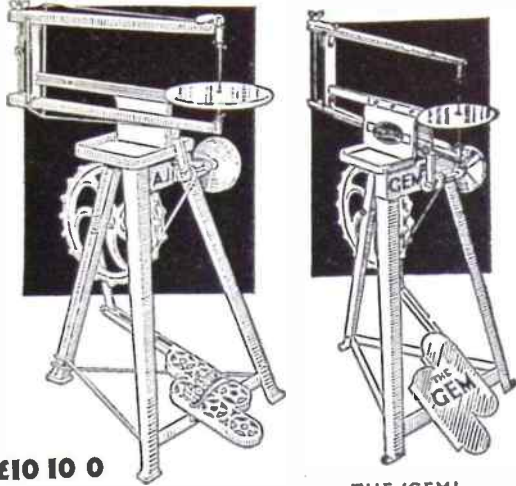
'Model of Yesteryear' Type 35 Bugatti. 'Matchbox' model 2/11



Hornby-Dublo Pullman Train Set. Three super detail Pullman cars hauled by West Country class 'Barnstaple' loco and tender. Meccano Ltd, £9.18.1. 'Barnstaple' loco also available separately £5.16.5.

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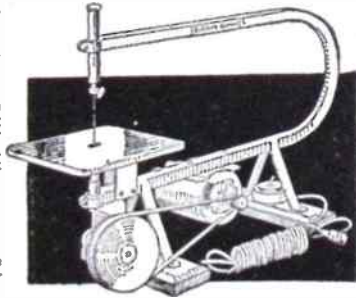
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HELEN SHAPIRO

NEATLY dressed in her Clapton Girls' School uniform 15-year-old Helen Shapiro collected up her satchel and school books, met her father at the school gates, took a bus to recording manager Norrie Paramor's office in E.M.I. House... and signed her name to a recording contract with Columbia Records.

This pretty, wide-eyed teenager has a rich, earthy singing voice which has soon become the object of much admiration and amazement. As Helen swings and bounces along each phrase it is difficult to picture a 'slight young thing' of school age behind the 'mike' in the studios.

Born September, 1946, in Bethnal Green General Hospital, Helen Shapiro is an attractive 5 ft. 2 in., with short black hair, dark brown eyes, an alert friendly nature and a strong will.

'My family loves music', says Helen proudly. 'Ronnie my brother has a jazz band of his own, my mother plays the violin and my father fondly encourages us all.'

Helen was coached by Maurice Burman. John Schroeder of Columbia Records was invited along to Burman's studios to hear several hopeful singers one afternoon and it was then that he heard Helen. Immediately interested, John arranged for her to make a test recording of a few numbers.

'I was very pleased with the result,' says John, 'and took the disc to Norrie Paramor. He was so impressed with Helen that, then and there, he decided to contract her.'

The next step was to find a song for Helen to record as her debut disc. Most of the current 'pop' lyrics were quite unsuitable for someone so young, and it was suggested that John Schroeder should write two numbers for her — swinging, up-tempo numbers with lyrics to match Helen's youth. John came up

with two really first class numbers, *Don't Treat Me Like a Child*, of which he wrote both music and lyrics himself, and *When I'm With You*, written by John and Maurice Burman and Mike Hawker (Columbia 45-DB4589).



All Helen's young life she has been surrounded by a family of music enthusiasts, all striving to develop and encourage her ambition 'to be a blues singer'. Her own taste in music includes rock 'n' roll and the more popular classical pieces, and her favourite artists are Perry Como, Elvis Presley and Bobby Rydell.

The popular Joe Loss

JOE's interest in music started when he was a small boy and his musical education was fostered on a cheap secondhand violin. He took it seriously and vowed to his school chums that he would one day be a big name in music. His friends never took him seriously

and in fact buttered his strings one day. Joe remembers how he placed his bow to his violin — and nothing came out! He stopped boasting and studied all the harder.

Since he became a bandleader in his own right, some 29 years ago, Joe has always been in the news and has, since the beginning, had a 'star' band whose popularity has never declined. Joe insists on melody and rhythm but his instrumentation allows colourful arrangements and interpretations.

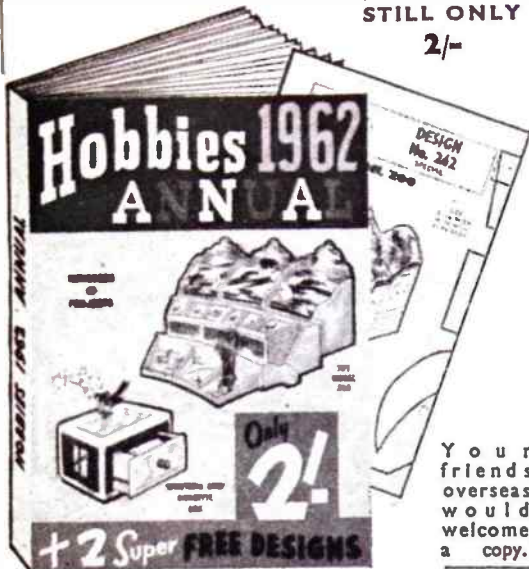
While resident at London's Kit Kat Club in December, 1933, the band made its first broadcast in a programme called 'First Time Here'. From that day to this they have enjoyed record-breaking ballroom and theatre engagements.

Where dancing is of first importance you'll find the Joe Loss band. Dancers know what to expect when his band takes the stand for it is music for dancing, and as Joe says — 'the customer is always right'. Joe Loss, who consistently records for the H.M.V. label, has been doing so for some 25 years. Besides his normal 'single' releases he has several 'Dancing Time for Dancers' LP discs to his credit.



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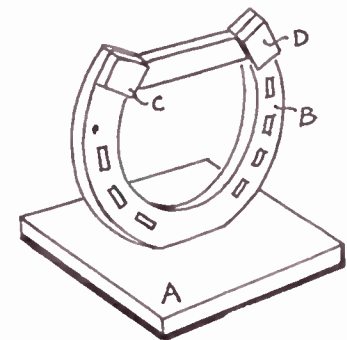
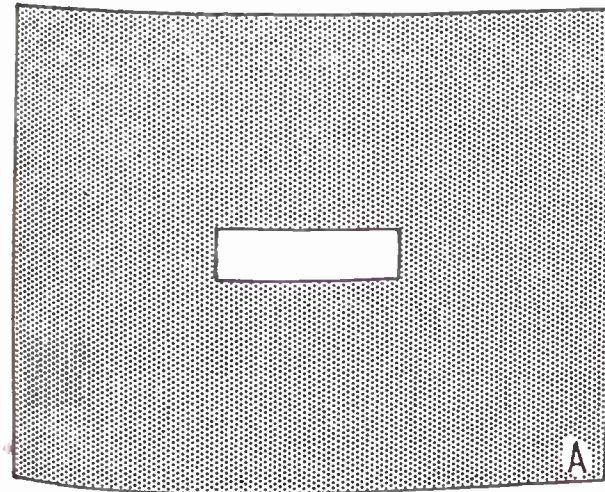
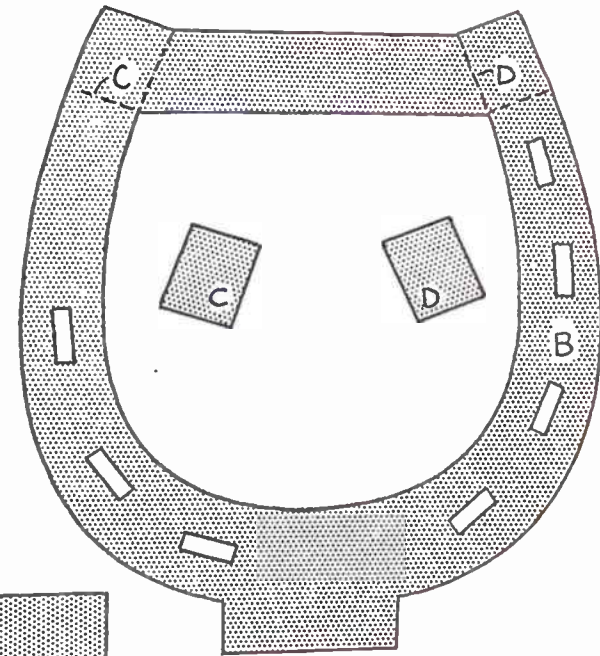
'HORSE-SHOE' WATCH STAND

THIS stand is intended to be used for a wrist watch which should be hung across the bar at the top.

Cut one of each piece from 1/4 in. wood with a fretsaw. The pieces are glued together as shown in the small sketch and are cleaned up ready for finishing.

Fill the grain and give one undercoat and two finishing coats of high gloss-enamel. (M.p.)

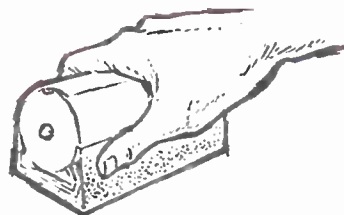
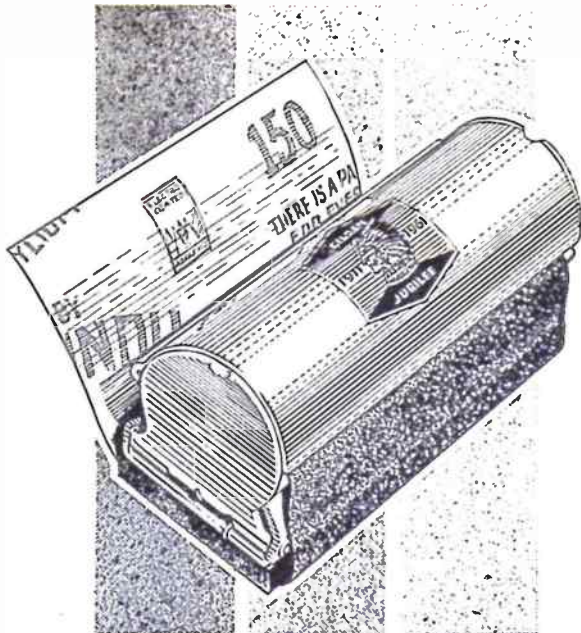
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PATTERNS WITH
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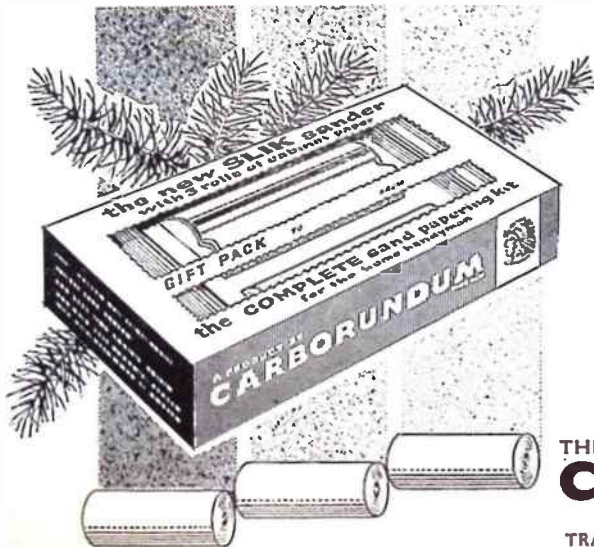
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