

# Hobbies

## WEEKLY

### CONTENTS

	Page
An Electric Chandelier	369
Unusual Wall Fitting	- 371
About the 'Round Square'	- 372
Household Shopping List	373
Replies of Interest	- 374
Bedside Fitting	- 375
Bogey Wagon and Breakdown Van	376
Dual-wave Crystal Set	377
Simple Model Glider	- 378
Hook-ends for a Gardener	379
Simple Window Locking Device	380
Cored Solder Dispenser	380
Electric Fan	- - - 381

March 12th, 1952

Price Fourpence

Vol. 113 No. 2941

### *Making and fitting*

## AN ELECTRIC CHANDELIER

**M**ANY of those who have a drawing or dining room which is large or high-ceilinged, and lit by a single electric light, must many times have noticed the hanging three- or four-light chandeliers which are so much a part of an electrical store's window these days, and thought just how right one of them would look at home.

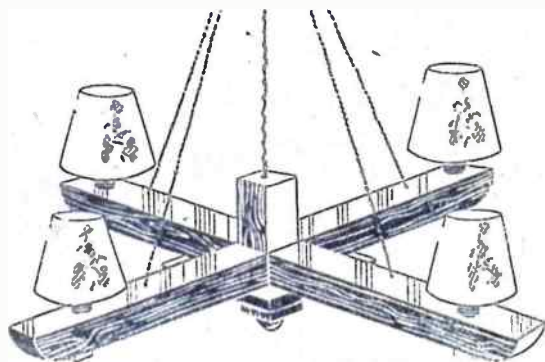
#### Low Cost

But, usually, the price is beyond one's pocket—£3 to £5 being somewhat more than most of us can afford for such a fitting. However, there is no reason why you should not have a handsome chandelier to light your home—and at a fraction of the cost of those in the shops. The one illustrated was made easily in a few evenings of work, it cost under £1 despite the fact that all the fittings, including the shades, were purchased, and looks equal to any professionally-made article.

To make the chandelier you require approximately 5ft. of 1½in. square wood, a few short lengths of 1in. by ½in. stripwood, a piece of ½in. wood 5ins. square, some oddments of ½in. stuff which will eventually be cut into 1½in. squares, and the necessary bulb holders, shades, lamps and flex. In addition, the author used, as ornament, five small

hardwood turnings of the type sold in hobby shops for clockcase feet and the like.

When the chandelier illustrated was made, the author could not obtain the sort of lamp holders which have a round flat base suitably drilled so that they can be screwed easily into position. He had to make do with the type of holder which is threaded to fit the conduit tubing used by electricians. This article,



therefore, describes the making of a chandelier using this particular kind of holder and threaded tubing, but if the worker can obtain the first type of holder, these can easily be substituted with a consequent saving in work and time.

In Fig. 1 it will be seen that at either end of the arm illustrated a ½in. hole is bored right through the wood. These are to accommodate the small lengths of conduit tubing mentioned, and which can be obtained from your local electrical store ready tapped to the thread of the holders. For the worker who obtains the flat based type of holder, however, these ½in. holes can be ignored, and a ½in. hole bored instead to take the flex through to the holders.

#### Nuts Needed

The man who uses conduit tubing, incidentally, will need four nuts for the bottom ends of the tubing to hold the lamp holders firmly in position. They can be obtained from the supplier of the tapped tubing. The worker will probably find, if they are standard size, that he will have to gouge away sufficient of the

### BUILD YOUR OWN DUAL-WAVE CRYSTAL SET



See page 377

All correspondence should be addressed to The Editor, Hobbies Weekly, Dereham, Norfolk.

wood around the  $\frac{1}{2}$ in. holes to let the nuts pull in below the surface of the wood. None of this work is seen in the finished article, of course, as it is all nicely covered with the decorative strips, etc.

Select a nicely grained and well-seasoned hardwood for the job if possible, but, if necessary, deal could be

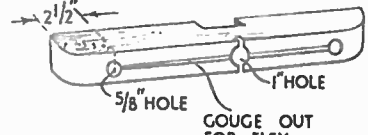


Fig. 1—Details of the flex channels

used provided the worker is prepared to spend a little time in getting a decent finish on it at a later stage.

Each of the two main arms, which are made from the  $1\frac{1}{2}$ in. square stuff, is 2ft. long and the ends are rounded as shown in Figs. 1 and 2. Halve the two arms together as shown and take care with this work as a nice tight joint is required. When the worker is satisfied that his halving is correct, the two arms should be taken apart and the necessary holes drilled in them. Each has a 1in. hole drilled through its centre (see Fig. 1), and, where conduit tube is used, the  $\frac{1}{2}$ in. holes are drilled  $2\frac{1}{2}$ ins. in from either end.

**Making the Channels**

Now, with a plough plane, or a gouge if no such plane is available, make the channels through which the flex will run. Note that the lower arm has two small channels cut at rightangles from the main channel and in its centre (see Fig. 1). Remember when dealing with the upper arm that the recesses for the flex are still to be gouged on the underside, so that the recesses in this case will run straight into the halved joint and not into the 1in. hole as in the lower arm.

The two arms can now be glued together, and should be put aside to harden thoroughly. In the meantime, the worker can proceed by preparing the 5in. square centre piece and eight  $\frac{1}{2}$ in. by  $1\frac{1}{2}$ in. square pieces required for the ends of the arms (two on each). The  $1\frac{1}{2}$ in. by  $\frac{1}{2}$ in. stripwood should not be cut yet, as slight discrepancies in the positions of the end holes may have been made by the worker, in which case the stripwood, if cut to a standard size, will be found to make bad joints. The approximate lengths of these pieces of stripwood will be found to be 6ins.

The upper and lower blocks of  $1\frac{1}{2}$ in. square wood can also be cut now, and no measurements have been given for these as they are largely a question of choice, the upper one, particularly, depending to some extent upon the height from the ceiling it is desired to hang the

chandelier. In the case of the article made by the author the upper block is approximately 3ins. long and the lower one  $1\frac{1}{2}$ ins. long. The lower one should have its bottom corners rounded as shown in Fig. 2.

**Assembly**

When all these parts have been prepared and the main arms are securely jointed, the work of assembly can begin. First, screw the bulb holders into position, and, where conduit tube is being used, screw the bottom nuts securely home. It will be found that the length of conduit necessary for each holder is approximately  $1\frac{1}{2}$ ins., as the tapered base of the holder will fit down into the top of the  $\frac{1}{2}$ in. holes. Using the flat-based type of holder it is only necessary to screw them down centrally over the  $\frac{1}{2}$ in. holes which will have been bored for the flex.

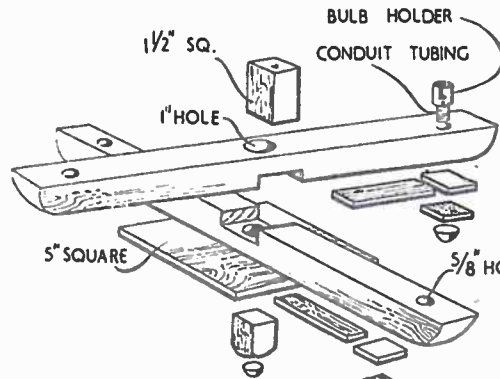


Fig. 2—An exploded drawing of the complete fitting

The holders must now be wired, and the wiring detail is given in Fig. 3. This wiring diagram should be adhered to, and no attempt should be made to join each lamp separately to a main flex from the ceiling. If this is done, not only will the worker find he has an ungainly (and possibly dangerous) number of joints to accommodate inside the 1in. hole in the arms, but he may also find that when the chandelier is finally wired to the source of supply in the ceiling and the current switched on, only one or two of the lights come on. It will then be found necessary to reverse the wiring of the bulbs not lit to make them function.

When the wiring is finished, the worker should have about 1yd. or so of flex protruding from the 1in. hole, in the centre of the arm, according to the distance from the ceiling he intends to hang the chandelier, and this flex will eventually be used to wire the fitting to the source of supply.

Thread the flex through the upper block and glue the block into position.

Now glue the 5in. square piece on to the base of the arms and the two  $1\frac{1}{2}$ in. square pieces at the base of each lamp holder. The 1in. by  $\frac{1}{2}$ in. stripwood can now be cut to the lengths required and glued into place, thus finally covering up the wiring work. Then glue the bottom block into position together with the five decorative knobs if these are to be used.

The woodwork construction is now complete and the work of finishing can be undertaken. The method chosen will depend much upon the finish of the existing woodwork in the room and the type of wood used. In most cases a medium dark stain and wax polish will be found suitable.

**Hanging the Fitting**

To hang the completed fitting, the author used lengths of copper chain, which can be obtained at most Ironmongers, but the worker may wish to use silk cord or some other means of suspension. Four small screw eyes are positioned one on each arm about mid-way between the upper block and the lamp holder. Cut the chain or cord to the desired lengths and fit one securely to each

Some attention should now be paid to the ceiling rose from which the chandelier is to hang. This will be found, in most cases, to be made of wood, and four suitable hooks

should be screwed into it in the necessary positions. In the centre of the rose will

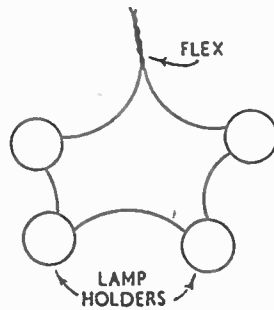


Fig. 3—Wiring details

be a plastic or oxidised metal, bowl-shaped fitting which is screwed into the rose, and it is through the hole in the base of this fitting that the flex goes to be joined to the main supply.

(Continued on page 372)

# It's simple to make this UNUSUAL HALL FITTING

THIS unusual letter or card holder, used as a wall fitting, lends itself to a variety of finishes. Stained and polished wood may be used or the bird 'profile' painted and finished in attractive colours. A further variation is an inlay, or rather overlay, of coloured plastic sheet or thin wood in contrasting colours to pick out 'feathers', eye, etc., of the 'bird'. Construction of the basic model is so simple that it should take only an hour or so.

The bird shape is detailed in Fig. 1. Mark the outline on good quality  $\frac{1}{2}$  ply—or thicker, if desired, using the  $\frac{1}{2}$ in. squares as a guide to layout. Mark on, also, the 'feather lines'. After the outline shape is cut out these latter lines are cut along with a saw. The extreme edges can be rounded off by glass-papering.

The shelf is detailed in Fig. 2. This is also cut from  $\frac{1}{2}$ in. material and notched to receive the other piece. The tongue and slot dimensions of Figs. 1 and 2 will have to be adjusted to suit the thickness of material used.

Before assembling the two pieces,

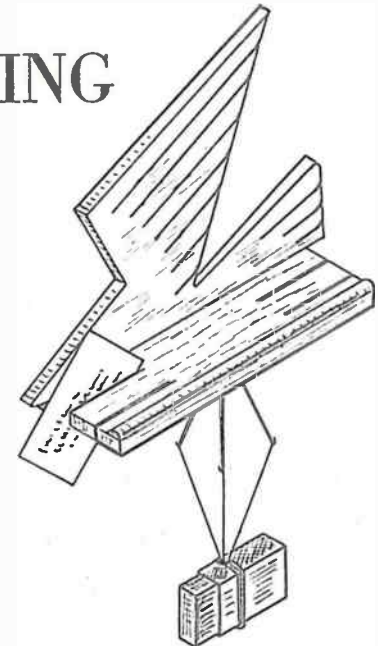
make sawcuts in the shelf, as indicated, and also cut out a small rectangular piece from the centre, if the 'hanging basket' is to be incorporated. This cut-out is the same size as a small bar magnet which is forced into the slot and, as an additional precaution, restrained from dropping out by tape or material straps glued across the underside of the shelf—Fig. 3.

When this has been done, shelf and back can be assembled, pinning (or screwing) and gluing the joint. Add the  $\frac{1}{2}$ in. by  $\frac{1}{2}$ in. strip along the front edge of the shelf and then finish the assembly with fine glasspaper.

For mounting, a shallow recess is cut in the back face of the bird shape, as shown in Fig. 4. Over this is screwed a small brass fitting to engage a screw or similar hanger in the wall. The fitting is designed to rest flush against the wall.

If the hanging basket is to be incorporated, bend a pyramid outline from 20 S.W.G. steel wire, as shown, with a base dimension of 2ins. (Fig. 5). Fill the apex of this frame with solder and file down to a point. The lower end of each leg is bent up in the form of an open hook.

To each leg is then tied a 5in. length of decorative twine or plastic thread. The four threads are tied together at their lower end and then tied or bound to an elastic band. This band, in turn, passes around and holds a matchbox.



The hanging basket will now suspend itself from the magnet mounted in the shelf. For the best effect, use a shallow magnet and recess into the bottom of the shelf, so that it is not visible from the top view. The slots in the shelf will hold letters, visiting cards, etc. (250)

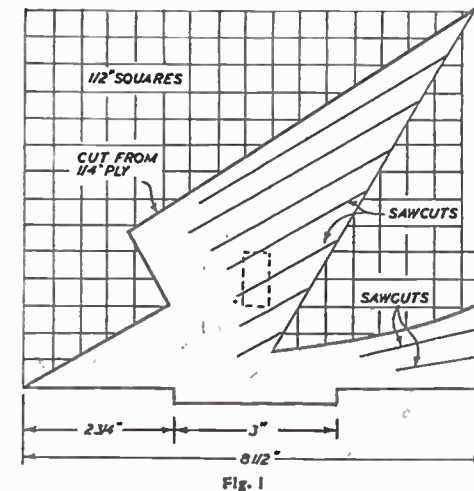


Fig. 1

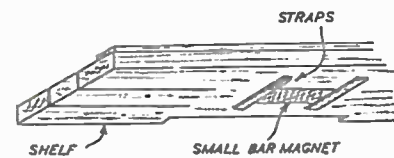


Fig. 3

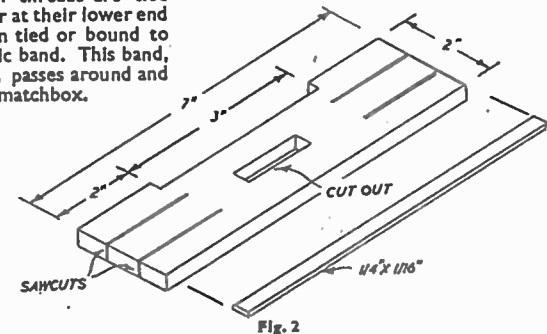


Fig. 2

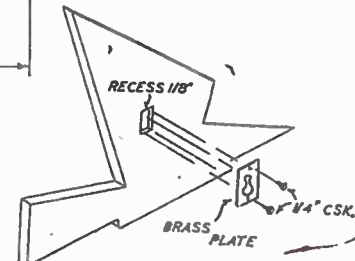


Fig. 4

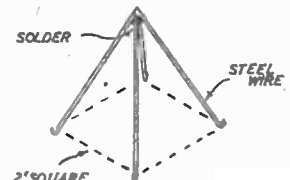


Fig. 5

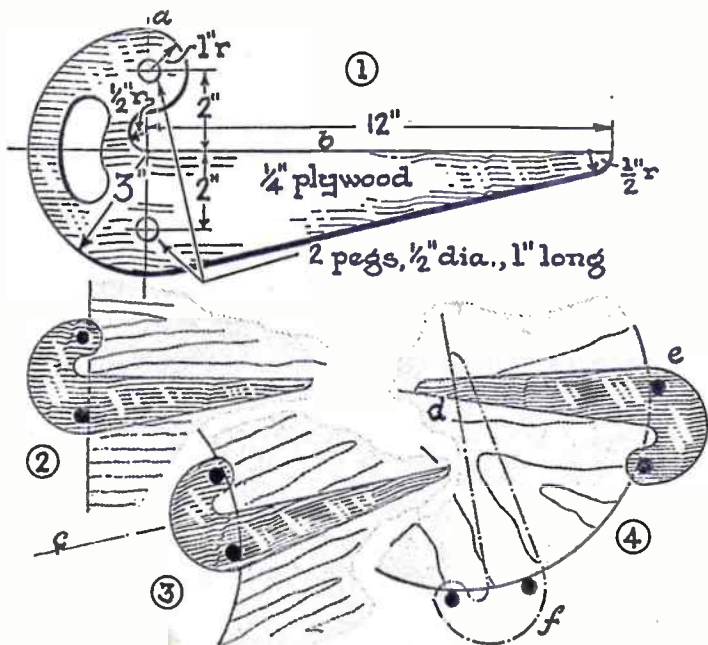


# ABOUT THE 'ROUND SQUARE'

A 'ROUND square' (actually a centre square) is a tool you can rarely buy (though one may, at rare intervals, be found in a second-hand shop when an old-time carpenter's kit is turned in) and is one of those tools (shown in Fig. 1, in one of its forms) of which an amateur might declare that he would not find a use for it once in a blue moon. Yet when made, one might well ask why one had not been introduced to it before. Apart from its specialised applications (admittedly not every-day uses), it can be employed regularly as an ordinary T-square as in Fig. 2. Its real use, however, is for finding the centre of round pieces (Fig. 4) and for drawing lines tangential to curved surfaces, as in Fig. 3, where the line formed by the straight edge of the square is in line with a radius of the circle with centre c.

### How to make One

Fig. 1 shows how such a 'round square' can be made, bearing in mind that this is but one form and but one size. Draw lines a and b at right angles to each other and on line a, set off the centres for the pegs (of dowel), 2ins. from line b. The rest of the piece can be set off from the dimensions given. The curved work need not be dead accurate but it is absolutely imperative that a and b are at right angles to each other and the two pegs centred exactly on line a. The curved handle opening shown in Fig. 1 is quite optional. It is not shown in the other diagrams. The pegs project 3/4in. from the plywood form



and have 3/4in. diameter holes drilled to take them in a tight fit. Optionally one can have metal pegs and this would certainly make the tool more lasting and less liable to wear. A strip of metal can be put along working edge b for the same reason. Pegs can also be made so as to project both sides.

In Fig. 4 one first puts the tool in position e and draws a pencil line, then moves the tool to f and draws another line. Where the lines intersect (at d) the centre of the circle is to be found.

Some old-time builders and masons had such squares made of gun-metal for use on brick arches and the like. (309)

## AN ELECTRIC CHANDELIER

(Continued from page 370)

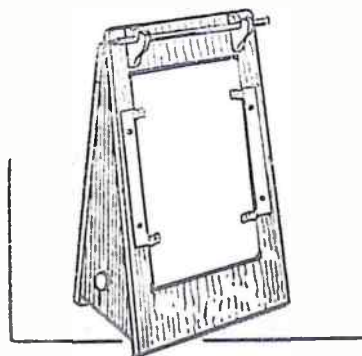
Make sure that the switch of the room light is turned off before removing this fitting and the old lamp. Inside the fitting will be found, as a rule, a small junction box containing two holes into which the two mains wires are screwed, and two more into which the flex is screwed. Unscrew these latter and remove the old flex and lamp.

Now suspend the newly-made chandelier by the four hooks placed in the wooden rose and adjust them for length, if necessary, cutting off any excess. Adjust the length of the flex from the new chandelier, bare the ends, and fit them into the junction box, screwing home firmly. Replace the centre fitting (which should, of course, be threaded on to the flex before wiring up), and the job

is completed.

In some homes which have been wired for many years, or where the wiring has been done cheaply and not too well, it may be found on removing the centre fitting that the flex from the lamp is merely joined on to the two mains wires which protrude from a hole in the ceiling, both joints having been covered with insulating tape. In this case, the worker can either wire his chandelier in the same way, or he may wish to fit a proper junction box while he has the fitting dismantled. If he elects to wire the fitting in the same rather crude manner as he found it, he should be quite sure that both joints are well insulated and that the weight of the chandelier is taken entirely by its

# Mother might like to have this HOUSEHOLD SHOPPING LIST



A USEFUL article this for the housewife, as it provides a shopping list and obviates those forgotten items which are so annoying. It is just one of those handy little articles which are equally welcome in the home or for sale. Construction is quite simple, and the amount of wood needed small. As will be seen from the drawings, it holds a roll of paper, a portion of which is on view and ready for the housewife to pencil on it such items as are needed at convenience. A pull on the end of the paper will draw out the written portion for present use, and leave a blank sheet ready for the future.

### Commencing Construction

A side view and front view are given in Fig. 1. Fretwood or plywood are suggested for the front and back parts, with a slightly thicker wood, say, 3/4in. deal, for the sides. Cut the front to dimensions given, and at the places shown, saw out the slots, making these 1/4in. wide. Above the top slot cut out two mortises 1/4in. long, and as wide as may be necessary to receive the fretwood brackets, seen at (B) in Fig. 3.

The top corners of the front are neatly rounded off, and the bottom edge bevelled to leave a sharp edge for holding the paper down, and to facilitate its being torn off to remove the shopping list. The back of the article is cut just 1/4in. shorter in length than the front. A piece, 1in. wide, is sawn off this at the top, and the two parts hinged together. A pair of the cheap brass fancy hinges will do for this job, the kind which are screwed or nailed across the joint, and need no other fitting.

Now cut the two side pieces. These are triangular in shape, as shown in the diagram. The simplest method here is to draw a base line, 2 1/2ins. long, and on the

centre erect a line to the height given, then from there draw lines to the ends of the base. On the centre line, at the distance up given, bore a 1/4in. hole through both sides, and make the holes into slots, with a slight upward angle. The top portion of the back part is now screwed to the sides, then the front part screwed across, extending above the sides 1in.

A detail of construction is given in Fig. 2, from which the foregoing items will be made quite clear. At spot (A) glue and nail across the sides a 1/4in. by 1/4in. strip of deal. In the centre of this drive in a small screw eye. Saw out a slot in the free portion of the back to fit over this screw eye, then fit a brass hook to engage the eye, and hold the flap of the back securely in place. This arrangement permits of access to the interior of the article for replenishing the paper supply, when such becomes necessary.

glasspapering all over. It can be left plain or given a coat of varnish, as preferred. A varnish finish prevents the article being easily soiled. An oak colour stain could well be applied, and would help to show up the white paper more clearly, but is entirely optional, of course. If a little stain is handy all the better, but it would scarcely be worth the expense if having to be specially bought.

### Paper Holders

To keep the paper flat against the front, a pair of metal parts, as seen in the general view, are desirable. These can be easily cut from tinplate to the pattern shown at (C) in Fig. 3. Punch two nail holes where shown, and file off the burrs flat. The two extending tabs, which will press on the edges of the

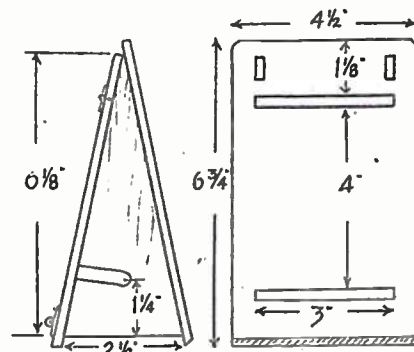


Fig. 1—Front and side views

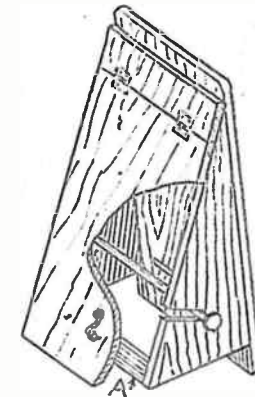


Fig. 2—Showing constructional details

From pieces of fretwood, cut two brackets to the shape given at (B) in Fig. 3, making the tenons a close fit for the mortises in the front. See the semi-circular slots at the top of the brackets will admit, as an easy fit, an ordinary lead pencil. Now glue the brackets in position. Give the whole article a good

paper, are bent as shown in detail (D). Give these parts a coat of enamel, and nail or screw in position when the paper is fitted in.

### The Roller

For the roller, on which the paper is carried, cut a 5in. length of 1/4in. dowel rod, and to each end glue and nail a disc of fretwood, to keep the rod fairly central and prevent it riding sideways when the paper is drawn out. It may be mentioned here that 1/4in. rod could be employed if a piece of the 1/4in. kind is not available, as long as the hole and slots in the side parts are in accordance. This diameter rod is more common than the one mentioned, and is used for curtain rods and handles for several

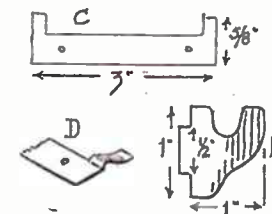
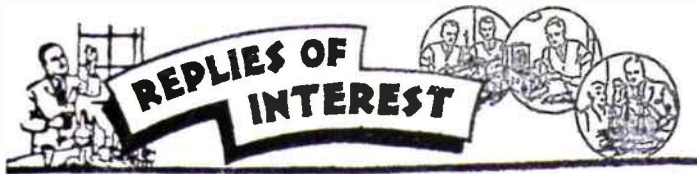


Fig. 3—Details of the metal parts

(Continued on page 374)





### Dry Rot

**I** DISCOVERED dry rot in some of the woodwork beneath the stairs of our house, on two of the floor-boards upstairs, and two window sills. Can this dry rot be prevented from spreading further? (W.H.M.—Llanelli).

Dry rot is caused by a damp and dark situation, in company with a warm and stagnant atmosphere, and anything you can do to improve these conditions will effect a great improvement. A good circulation of fresh air is one of the first essentials, also, but, unfortunately, there is not much can be done in these matters short of structural alterations. With regard to the window ledges, it seems possible that the trouble here could be at least much lessened by an outer application of waterproof compound, which could be purchased at most builders' stores. Present treatment calls for the removal of all infected wood, which should be burnt straight away. Surrounding woodwork should be given a coat of creosote, and any fungus observable scraped away. The new wood to replace the old should be creosoted on its inner surface before being fitted in. Take care to see that no wood is left behind which is affected by the spores of dry rot, as this will, inevitably, spread again to the new, and cause future trouble.

### Radio Transmitter

**AS I wish to take up transmission in an elementary form, can you inform me where I can obtain particulars on how to build a simple Morse transmitter, and the requirements regarding the necessary licence? (P.B.—Athy).**

DETAILS of transmission licences and application form may be obtained from The Engineer-in-Chief, Radio Branch, W5/5, G.P.O., London, E.C.1. The licence costs from £1/10/- upwards according to power. The user must be able to send and receive Morse at not less than 12 words per minute

(this part of the entrance examination can be taken by arrangement at a local post office). In addition, the user must pass an examination in operating procedure and radio, to assure that he is able to maintain his station on the frequency allocated, and avoid interference with other users. The station must also be open to inspection by authorised officers of the G.P.O. If your technical knowledge is sufficient to enable you to pass the set examination, you will be able to build a transmitter without guidance. However, details of small transmitters will be found in George Newnes (Tower House, Southampton Street, Strand, W.C.2) book on amateur transmission.

### Electric Poker Machine

**I WISH to make an electric poker machine for burnt wood engraving. Could you tell me how to make such a machine, i.e., circuit, wire to be used for the tip, and resistance? I have a transformer supplying 90-50-46-40-35-30-26-20-12-9-6-37 volts at 5 amps. (E.S.—Parkstone).**

THE arrangement which you describe is similar to an electric soldering iron, and it would probably prove more satisfactory for you to purchase this ready made. If one is to be made, then a winding of 20 S.W.G. nickel-chrome wire is suggested. This must be on ceramic or other indestructible insulating material, secured to a handle. Mica is wound round the element thus made, to provide insulation, and the whole inserted in a tightly-fitting copper tube, which would need to be drilled to enable a copper or other shaped bit to be secured in position. As you have a wide range of possible voltages, it is suggested you select that giving a most suitable temperature, provided that the 5 amp. rating of the transformer is not exceeded.

### Renovating Book Bindings

**I WISH to renovate the bindings of some old books, some of which are in leather,**

the others in cloth. The books, especially those bound in leather are faded and in some cases very soiled. Which is the best method of cleaning the leather and the cloth bindings? (J.L.—Abertillery).

THE cloth bindings can be cleaned by rubbing with Thawpit or one of the proprietary brands of cloth reviver; thereafter the colour can be restored by carefully rubbing with a linen rag dipped in any good spirit colour, or by using a suede shoe dye. Restoration of the leather bindings calls for more skill, and is rather difficult to describe briefly. First steps should be careful but thorough cleaning with Thawpit or the like, to remove as many stains as possible. Next, using only the barest minimum, stick down all loose pieces of leather—Seccotine used very thinly will do. Next apply a trace only of linseed oil to the dry powdery parts of the leather to help restore its flexibility. Leave for a day or two, then re-colour the leather with any good quality leather dye and bring up the surface by polishing with hard white wax. Any gilding can be restored by carefully coating the incisions with gold size and pressing gold leaf on to it.

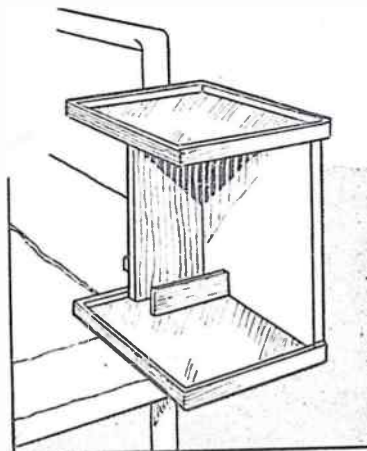
### Copper for Aquarium?

**I HAVE an old copper, which is a bit rusty and holds about nine gallons of water. Do you think I could make a pond out of it? If so, please tell me how to disinfect and enamel it so that fish and plants do not get poisoned. I have scrubbed it very clean, and think the sand will cover up the rust marks. (D.C.—S.E.12).**

**YOU** could keep a few suitable fish—goldfish, rudd, orfe, etc. in the copper, but it is hardly an ideal thing for a garden pond. Much better to make one of concrete and stone. However, if you thoroughly clean interior of copper of rust, and afterwards scald out with boiling water, fish will live in it, if the water used is kept nicely aerated when necessary by adding fresh water from time to time, and putting in some weeds. Do not paint or enamel the interior of the copper, as most paints and enamels contain elements that might poison the fish. You can paint the outside. Have only two or three fish—do not overcrowd. The rule is—'one inch of fish to one gallon of water'.

Fix the metal parts so that the tabs press lightly on the edges of the paper. It will facilitate the passage of the paper if the sawn inside edges of the slots are well glasspapered to smooth them.

When a list is ready, draw through the slots until the list appears, then press lightly on the article and tear off. Provide a pencil, which, for security's sake should be attached to the side piece with a length of thin cord. (256)



**EVERYONE** has not a bedside table, and to such, the fitment illustrated should be welcome. It is fitted to the head of the bedstead, and has a double shelf, top one for a candlestick and bottom one for a morning cup of tea (if lucky enough), or other purpose. A partitioned off portion is just large enough to hold a bedtime book. The whole can be swung back out of the way when making the bed in the morning.

### Hardwood Preferred

Wood of 3/4 in. thickness is recommended for its construction, oak or other fancy hardwood if possible. However, a good article could be made from deal, and stained and polished oak colour, if nothing better is available. A plan of the body part, that is the whole less the attachments for fastening it to the bed, is given in Fig. 1. The position of the upright portions separating the two shelves are indicated by the dotted lines.

Cut two of the pattern, and on the inside surfaces mark the position of these upright parts, also cut from 1/2 in. wood, except the narrow strip, forming a stop to prevent the book from slipping sideways. For the back and side piece, cut rebates in the shelves, 1/2 in. deep and 1/2 in. wide. That for the sidepiece, should extend only 4 ins., of course. A 1/2 in. deep groove is cut in the bottom shelf for the

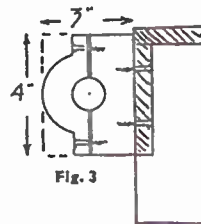


Fig. 3

## Here's an attractive BEDSIDE FITMENT

'stop' trip, as we may describe it. This strip can be cut from 1/2 in. fretwood or other thickness, it does not matter as long as the width of the groove is cut to suit. The isometric view of the whole, given in Fig. 2, shows plainly the joints used here.

Glue and screw all parts together, countersinking the screws level with the surface, except the joint between side and back, which may be nailed instead of screwed. Glue in the 'stop' strip, and nail through the back piece. When the glue is hard, give the whole a good rub over with glasspaper.

### The Shelf Rims

A few pieces of fretwood, about 1/2 in. thick, should now be cut, 1/2 in. wide. These are glued and nailed round both shelves to form rims to keep objects on the shelves from being accidentally pushed off. Fit these neatly round, mitring the corners for appearance's sake. In the diagram, Fig. 2, these rim strips are shown fitted partly round, of course, actually they will rim the shelves all round. That extending on the lower shelf to the side of the articles

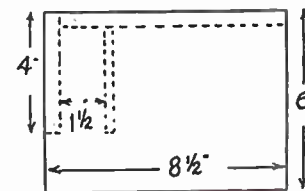


Fig. 1

need only cover it for a distance of about 1 in.

Two fittings will be needed for attaching the shelves to the head of the bedstead, as in the general view of the completed article. These are shown in Fig. 3, plan view, already fixed to the side of the fitment. Cut them to dimensions given, preferably from 1/2 in. wood or thereabouts, though the 1/2 in. wood will suffice if of a hard tough nature. These, however, must be strong, as some strain may well come upon them

CUTTING LIST	
Shelves (2)	8 1/2 ins. by 4 ins. by 1/2 in.
Back	9 1/2 ins. by 8 ins. by 1/2 in.
Side	9 1/2 ins. by 4 ins. by 1/2 in.
Stop strip	3 1/2 ins. by 1 1/2 ins. by 1/2 in.
For rims—2 panels	1/2 in. fretwood, 4 ins. by 9 ins.
For bedstead attachments—one piece	1/2 in. wood, 8 ins. long by 3 ins. wide.

375

while the fitment is in use.

In the centre of these parts bore a hole through the same size as the tubular frame of the bedstead. Usually this is 1 in. diameter, but measure it carefully, as some variation may exist in different bedstead frames. Now shape up the outer side edges of the parts, and saw into two halves across the centre of the holes. One half of each is to be firmly fixed to the side of the fitment, using glue and screws, driven in from inside. The exact position of these is not critical, if they are separated by about 6 ins., it should prove quite satisfactory. The lower one is best, perhaps, fixed about 1 in. up from the bottom.

Now drill screw holes in the halves sawn off and screw them back again. It will be as well to glasspaper the inside surfaces of both holes to prevent them, as far as possible, from scratching the enamel of the bedstead. A safer plan would be to bore the holes about 1/2 in. larger than the tubular frame, then to glue strips of baize or rubber inside the holes. No scratching is then likely to occur.

### Finishing

The whole article can now be finished finally with glasspaper of fine grade. If made of oak, a finish of french polish or clear varnish may be enough. If of deal or other white wood, a light stain before

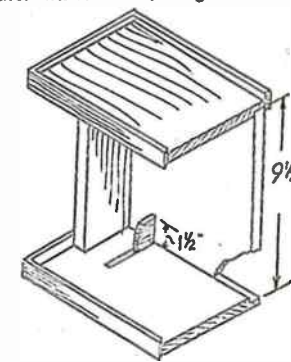


Fig. 2

varnishing would be an improvement. Of course, previous to any finish, any nail holes should be stopped up level. Unscrew the loose halves of the attachment fittings, place the article over the tubular head of the bedstead, and rescrew in position. See the fitment is tight enough to be firm, yet free to be swung back or forward as may be necessary. (257)

## HOUSEHOLD SHOPPING LIST

(Continued from page 373)

small domestic articles, and if one of these is worn out the handle, if in good condition, may well be employed.

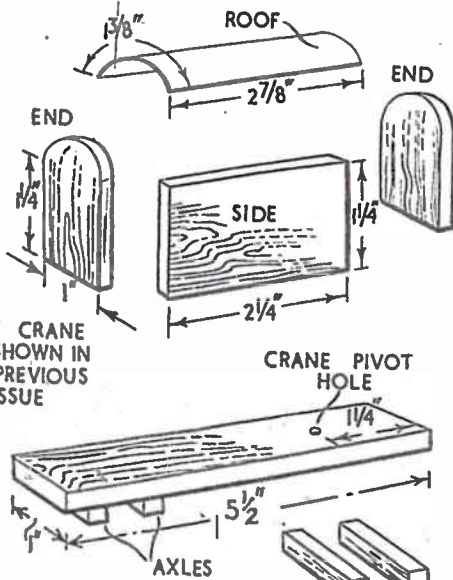
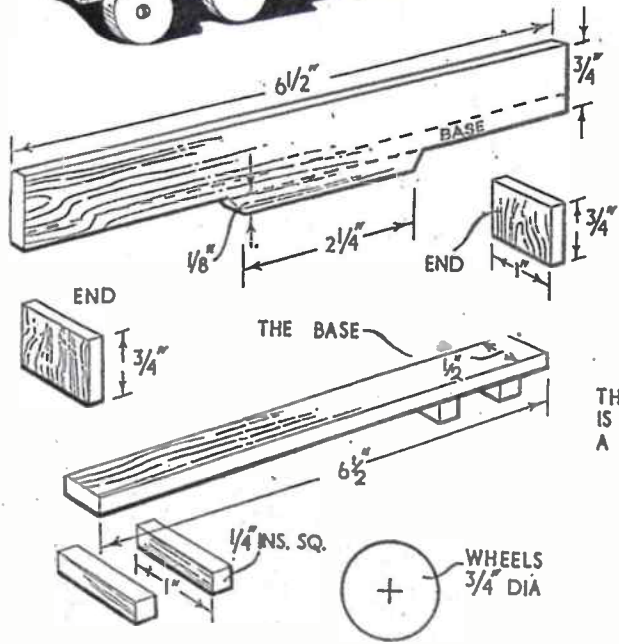
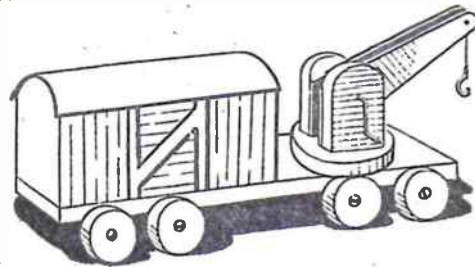
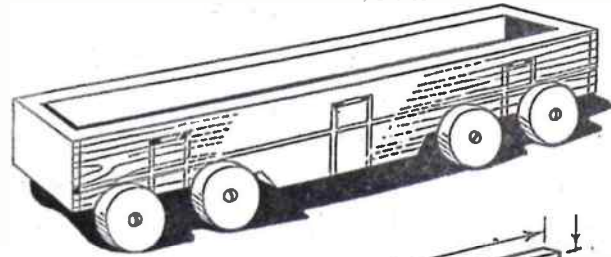
For the paper, about the best thing is a roll of white lining paper, as used for covering shelves. This is several yards in length, and of quite decent quality, and

if cut into strips, a shade less in width than the length of the slots, would make several rolls. Roll it round the wood rod, insert in the slots, then draw one end through the top slot and back again through the bottom slot, leaving about 1 1/2 ins. surplus for pulling out.



# Bogey Wagon and Breakdown Van

FOR THE TOY TRAIN SET



THE two small toys shown here are further additions to the toy train series that has been shown in previous issues of *Hobbies Weekly*. They are easily constructed and there should be no difficulty in making both in one evening. The painting will, of course, take longer because of the necessity to allow one coat to dry before applying the next.

The High Capacity Wagon is a representation of the two-bogey type, usually employed for carrying bricks or coal. The Breakdown Van is really a mobile workshop and hoist that can quickly deal with an accident or breakdown.

## The High Capacity Wagon

The construction can be clearly seen from the details on the left-hand side of the page. The shape and measurements

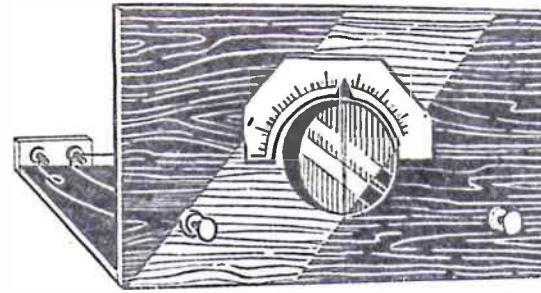
of the sides, which are cut from 1/2 in. thick wood, are shown in the drawings. The 1/2 in. thick base is glued between the sides and the ends, also 1/2 in. are secured to these. Small fretpins or screws may be added to make a stronger job. The axles are cut from 1/4 in. square stripwood in 1 in. lengths and are then fastened to the underside of the base by means of 1/2 in. screws or glue. A small hole must be drilled in each end of the axles to prevent splitting when the wheels are fixed in place.

The wheels are made from 3/4 in. diameter round rod which is cut off in 1/2 in. lengths. This is most easily done by means of a tenon saw. Drill a hole in each wheel, large enough to take a thin 1/4 in. or 5/16 in. round-head screw. Note that the wheels will not be fixed until after they and the wagon have been painted.

## The Breakdown Van and Crane

The Van and Crane are built up on a base of 1/2 in. wood cut to the dimensions shown. The ends of the van are 1 1/2 ins. by 1 in. by 1/2 in. and the top is rounded. Between these glue the two sides, which are also cut from 1/2 in. stuff. The roof is made from card cut to size and glued over the rounded ends. Notice the overlap at the ends and sides. Now glue the completed van to the base and proceed to make up the little crane as explained in previous issues. To fix the crane you will need to drill a hole in the base about 1 1/2 ins. from the end and centrally between the sides. Through this hole goes the round-head screw which drives into the round crane platform. As in the previous case the axles and wheels are made up from stripwood and round rod respectively. Finish off with two coats of paint. (299)

# You can make this DUAL-WAVE CRYSTAL SET



Easy and cheap to build—and costs nothing to run!

30 S.W.G. wire, and beginning of the 36 S.W.G. wire. The enamel must be scraped away before making connections.

## Other Constructional Points

The other connections in the set may be made with the 30 S.W.G. wire, or with thicker connecting wire, if to hand. The coil is mounted on two small blocks, with small screws passing down through them into the baseboard.

If the detector is fitted with two mounting brackets, then it can be bolted horizontally to the panel. If desired, a small dial or scale can be drawn up or purchased, and placed behind the tuning pointer.

As no difficulty should arise in making a containing case, detailed instructions for this are not given.

## Using the Set

Headphones are connected to the two 'Phone' terminals. They should be of the usual medium or high impedance type (500 to 4,000 ohms). Some ex-service phones of low impedance are sold; these are for special purposes, and not suitable for this type of set. If used, volume will be much reduced.

An earth lead is attached to terminal (E). This lead should go to an object buried in the soil outside, and almost any metal object will do, though special

(Continued on page 378)

CRYSTAL sets appear to be popular, because of their simplicity, and because they cost nothing to run. The range of reception is, of course, somewhat limited, but such a set can normally give good headphone volume in most parts of the country. With a good aerial and earth, some European stations may be received, though these will not be very loud. A set such as that described here can be made up for approximately fifteen shillings, including headphones, and wire for aerial and earth. It should be noted that no extra licence is required, if a licence is already obtained for a valve set used by the same family.

It is proposed, at a later date, to give instructions for making an amplifier, so

cut from plywood. A size about 5 ins. by 6 ins. is suitable, unless the set is to be fitted into an existing case.

The baseboard is of similar size to the panel, but of thicker wood so that the panel may be screwed to its forward edge. Two small terminal strips with terminals are screwed in place at the back, as shown in Fig. 2. These strips may be of dry wood, but paxolin or ebonite is better.

The detector illustrated is of the type which fits to the panel by a single hole; other types of detector are made, and are equally suitable, in this type of set. The small on/off switch, used for wave-changing, can be of any type.

The coil is wound upon an insulated tube about 1 1/2 ins. in diameter. Such tubes may be purchased, or made by winding glued cardbord or brown paper round a suitable object, and leaving to dry. If a tube is made up in this way, it should be varnished before winding, for preference. The diameter of the tube is not critical. If it is larger, fewer turns will be needed; if smaller, extra turns will be required.

## Winding the Coil

Two small holes are made, and 30 S.W.G. enamelled wire anchored by passing through them, leaving the end a few inches long. This is point (1) in Fig. 2. Thirty turns of wire are then wound on, the turns being evenly side by side. A loop a few inches long is made, and anchored at point (2). Forty further turns are then wound on, and the wire finished off at point (3).

A length of 36 S.W.G. enamelled wire is also secured at point (3). With this wire 240 turns are put on, consisting of three compact piles of 80 turns each, as shown, and the wire finished off at point (4). All turns throughout, from point (1) to point (4) must be wound in the same direction.

Fig. 2 shows how the coil is wired in. The lead to terminal (A) will consist of two wires, formed by the loop mentioned. The lead to one switch terminal will also consist of two wires—the end of the

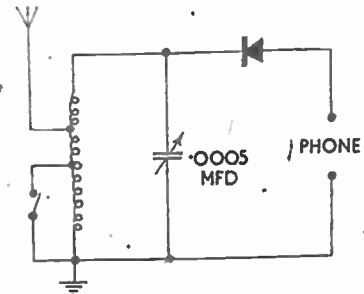


Fig. 1—The circuit

that a loud-speaker can be operated. It will also prove feasible to modify the crystal set, making it into a valve set which will provide increased range and volume. In this way a good deal of interest should be obtained, and the constructor will be able to modify his set into a larger one, if he wishes.

## Components for the Set

The tuning condenser is of .0005 mfd. capacity, and fitted with a fairly large control knob, with pointer. An air-spaced condenser is recommended, though if a solid dielectric (e.g., reaction) condenser is to hand, this can be used. If the builder wishes to avoid soldering, then a condenser with terminals will be necessary. The condenser is mounted on the panel, which may be

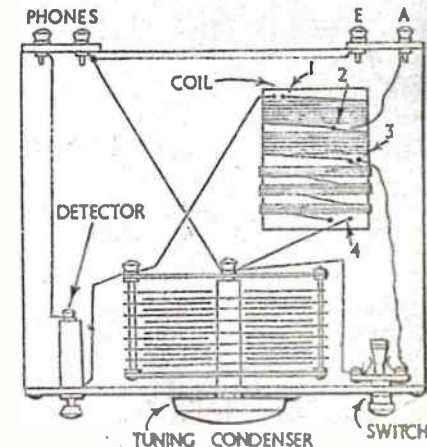
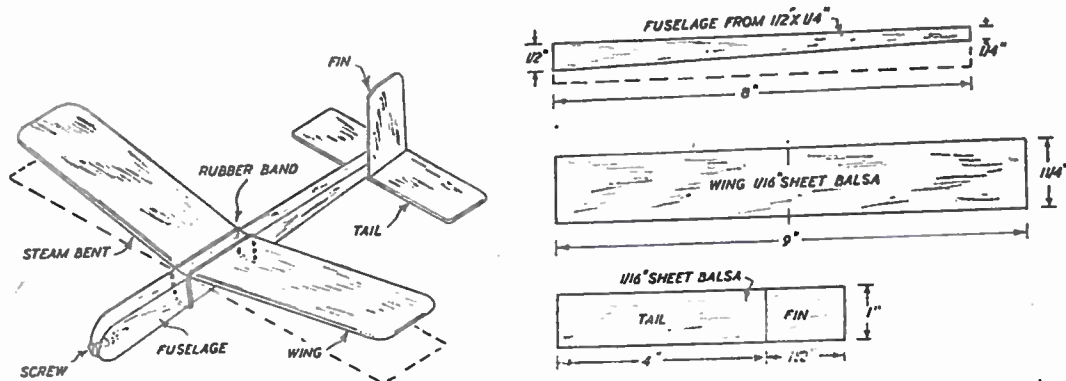


Fig. 2—Wiring plan



# For a few coppers you can build A SIMPLE MODEL GLIDER



**YOU** can build this model glider for a few pence and have a simple robust little aeroplane which will give you hours of fun. All the material used is balsa. You will need a sharp knife or a razor blade to cut the pieces, a tube of balsa cement for sticking the tail parts to the body or fuselage, a rubber band for holding the wing in place and a screw to push into the front of the fuselage for a weight.

### The Fuselage

The fuselage is made from an 8in. length of  $\frac{1}{2}$ in. by  $\frac{1}{4}$ in. strip balsa. Trim one edge of this strip so that the fuselage tapers in depth to  $\frac{1}{4}$ in. at the rear. If you

start with a strip  $\frac{3}{4}$ in. by  $\frac{1}{4}$ in., one diagonal cut will give you two fuselages.

The wing is a simple rectangle, 9ins. long by  $\frac{1}{16}$ ins. wide, cut from  $\frac{1}{16}$ in. sheet balsa. The tailplane and fin are cut from a piece of  $\frac{1}{16}$ in. balsa  $5\frac{1}{2}$ ins. long and 1in. wide, as shown. Round the corners of these parts off with glasspaper.

### Getting Dihedral

Cement the tailplane and fin to the rear of the fuselage, as shown in the main sketch. Leave these to dry. The wing should now be bent upwards to form what is called dihedral. Hold the wing in the steam issuing from the spout of a boiling kettle and gently force the bend into the wood. Do not bend too

sharply, otherwise you may crack the wing. If you do have an accident and crack the wood, then you have still not spoiled the wing. Simply coat the cracked portion with balsa cement and leave to dry. It will then be as strong as new.

### Testing

Force a woodscrew into the front of the fuselage and then strap the wing in place. Slide the wing backwards and forwards until you find the position to give the best glide. If the model dives when you launch it, move the wing forward. If the model noses up, move the wing back. When you have found the right wing position, you can cement the wing in place, if you wish. (483)

In volume will be obtained by omitting this tapping (or disconnecting it), and taking a lead directly from the fixed plates terminal of the tuning condenser, or point (1) on the coil, to the aerial terminal.

Sharpness of tuning may be increased by using a shorter aerial, by adding a condenser in series with the aerial lead-in, or by taking the aerial to a tapping nearer to point (3). Unfortunately, each of these changes brings about some reduction in volume, and the tapping described is in the best position for general use. It should in any case be possible to receive the local stations satisfactorily without difficulty.

Loudspeaker reproduction can be obtained by using the set to feed an amplifier, and it is hoped to deal with this in due course. It will also be possible to replace the detector by a valve, thereby making the set into a 1-valver, if desired. (291)

# Making a novel pair of BOOK-ENDS FOR A GARDENER

**A** PAIR of book-ends always make an acceptable present to the book lover, and when they are designed to hold the books relating to one of his particular hobbies, they are even more welcome.

The book-ends illustrated will appeal to those who enjoy gardening and have, as most gardeners do, a number of books on different aspects of their hobby. The overlay figures—one mowing the lawn and the other rolling—are repeated on each side of each book-end and give them a gardening motif which will enhance the books they hold.

Those who have books on other hobbies will probably be able to think up similar ideas to suit, and if not, some of the alternatives we hope to publish at later dates may be of use.

Now scale up the squared drawings in Fig. 2.

First draw a horizontal line 10ins. long and, with a compass, describe the half circle. Divide the whole into  $\frac{1}{4}$ in. squares, and it will then be found a comparatively easy matter to sketch in the outline of the figures. Fig. 2 also gives a guide to the flowered backgrounds and these, too, should be sketched in.

Transfer the figures (two of each) to suitable  $\frac{1}{4}$ in. wood, being careful to see that the grain runs vertically through the figures to avoid the overlays snapping easily while being cut. Then, with the fretsaw, cut out the figures and clean them up.

Next, transfer the pattern of the flowers, etc., to each side of the quarter-circle parts of the book-ends, and then glue the overlays into place. This task will have to be tackled in two parts, as the overlays need to be suitably weighted while the glue sets. One side of each book-end should have the overlays fixed first, and then, when these are quite dry, the ends can be turned over and the process repeated.

The finished articles can either be stained and wax-polished (with the flowered background painted in colourful enamels after staining but before

polishing), or finished entirely in enamels, picking out the detail of the figures in natural colours. If enamelling is chosen, the book-ends might well be painted black to throw the flowers and figures into sharp and colourful relief.

The reader handy with a penknife or chip-carving tools may wish to carve the figures instead of making a straightforward overlay. In this case the figures should be cut from  $\frac{1}{4}$ in. or even  $\frac{1}{8}$ in. wood and then modelled until each figure is given a lifelike representation. This sort of work is not easy, of course, especially to the uninitiated, and you may decide, in this case, to make plain overlays. But an extra figure might well be cut from thicker wood and carving practised. Then later, when you have learned the art, properly carved figures could be incorporated in some new project.

Incidentally, even plain overlays can be enhanced by scoring the detail lines with a v-shaped carving tool. (302)

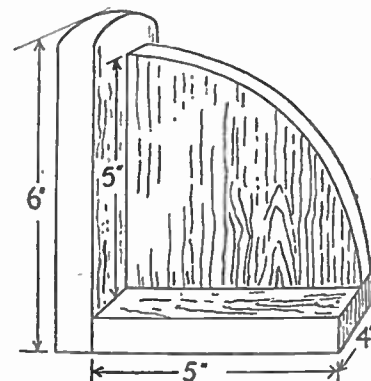
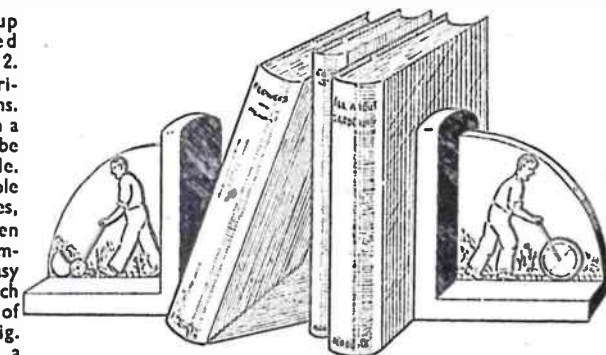


Fig. 1—Measurements of the ends

Basically each 'end' is a simple three-piece job of carpentry, and will be straightforward enough for even the beginner. The overlays, too, will present no difficulties to the fretsaw owner. The flowers, etc., which make a background to the figures and help to give them life, are painted on, and no art training is required for the job.

Begin by making the two 'ends' from  $\frac{1}{4}$ in. wood and to the measurements given in Fig. 1. The curved piece is a quarter circle and can be set out with a compass. Glue and screw the pieces together, using countersunk screws.

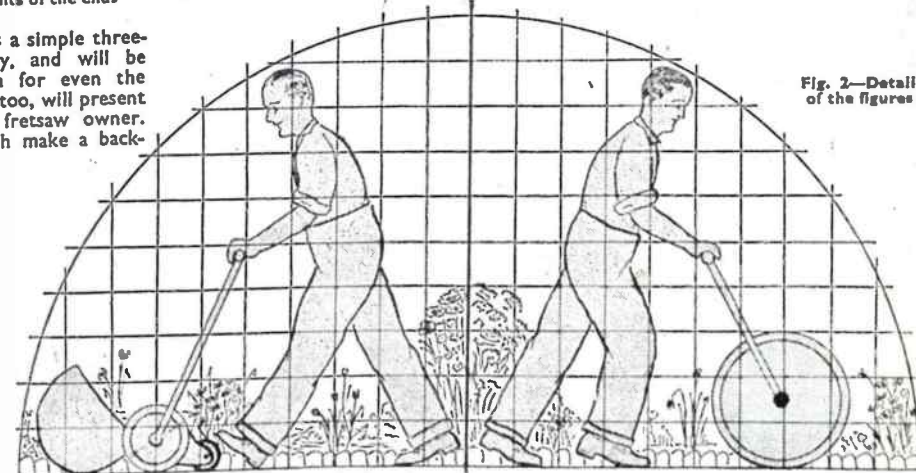


Fig. 2—Details of the figures

## DUAL-WAVE CRYSTAL SET

(Continued from page 377)

earth spikes are available. In some cases it may be convenient to take this lead to an existing earth, or to an earthed object such as descending water pipes.

The aerial is attached to terminal (A). The best aerial is a fairly long one, out of doors, and situated as high as possible above surrounding walls, etc. One or two small insulators are added at each end. However, in many areas ample volume should be obtained with a comparatively poor aerial, and even a length of wire indoors may be sufficient. This depends upon the individual user, but it should be remembered that the better the aerial is, the louder will signals be.

The crystal plunger can be adjusted to various positions, to find a sensitive spot.

It should be withdrawn slightly, moved, then allowed to return. It should not be moved about without first pulling out the plunger, or this will rapidly grind away the surfaces of the crystal.

The older type of cat's whisker detector is adjusted in the same way, until a sensitive spot is found. Most spots over all the surface of the crystal will give quite good results, but some will be a little better than others.

### Tuning Points

As with all crystal sets, tuning is a little unselective. The use of an aerial tapping, as provided on the coil which has been described, helps to bring about some improvement, here. If a very poor aerial is used, a slight increase



## Scared of burglars?—Here's a Simple Window Locking Device

The simple locking device described in this article allows this to be done and at the same time makes the window as safe as if it were closed up and bolted.

The device allows either the top or bottom sash of the window to be left open a few inches, and it prevents it from being forced open any further. It does not however, interfere with the normal opening and closing in any way.

### Ordinary Hinge

The device is nothing more than an ordinary butt hinge which can be fitted up quite easily by any one in a very short time. The drawing clearly shows how this is done. The bottom hinge is opened out and in operation allowing the window to open a few inches. If the window is wanted to be open further this hinge is folded up and the upper one is brought into operation. Several hinges can thus be used which allows ample adjustment to be made as required.

Do not forget, however, that if the window is open wide a person could get in very easily, therefore two adjustments should be sufficient so that there is never more than a few inches space open

at a time.

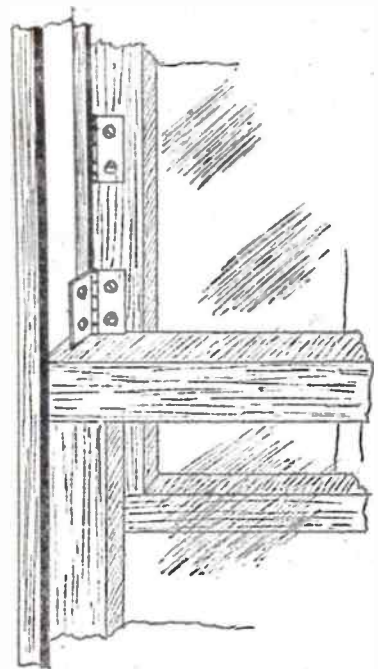
Good strong hinges should be obtained and it is best to put one on each side of the sash so as to make the job more secure. Brass hinges about 1½ ins. or even 2 ins. would be the most suitable, although on a large window they could be larger still.

It will probably be necessary for the hinges to be let into the window sash so that when closed up they are flush with the woodwork which thus allows the window to be opened to any amount.

### Long Screws

Use long screws that go three-quarters of the way through the woodwork so as to give added strength and security. Another point to watch is not to use hinges that swing open too easily otherwise any slight vibration may put them out of operation. It would also be easy for anyone to put a wire or stick over the top of the window and knock them closed. It is therefore necessary to see that they are moderately stiff.

To finish off they may be painted to match the colour of the window and then they would hardly be noticeable. (272)



PEOPLE are often reluctant to have a sash window open at night for fear that it is the means of someone breaking into the house. If a window is open just an inch or two it makes all the difference to the atmosphere of the room.

## It's easy to make a CORED SOLDER DISPENSER

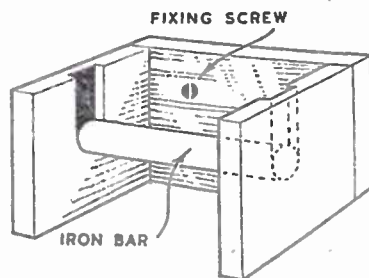
RESIN-CORED solder, so popular nowadays, is most economically bought, for amateur use, in 1lb. bobbins. Despite its size a bobbin of solder shares the faculty possessed by other workshop articles of losing itself when most wanted. The dispenser described here keeps it in one place and that in a handy position. It is made of three pieces of wood and an iron rod.

Make the back portion broad enough to give the bobbin a ½ in. free play. Drill holes in it for screws to fix to the wall. The sides should be square and somewhat larger than the end-plates of the bobbin. Cut the slots to the centre of each side. This ensures that the bobbin will not foul the back and stick. The width of the slot will be determined by the thickness of the rod on which the bobbin is to run and this in turn should be less but not greatly less than the

internal diameter of the bobbin to minimise bumping as the bobbin turns. A piece of wooden dowel can be used instead of iron but the greater weight of the latter keeps the bobbin in place more efficiently. Whether wood or iron is used make the rod a tight fit between the faces of the slots and the natural springiness of the wooden sides will hold it firm. Screw the sides to the back.

Mount the dispenser on the wall 1ft. above the position where soldering is normally done. Fill it with solder and it is ready for use. If soldering has to be done elsewhere the bobbin is easily slipped out and replaced when the job is done.

Another idea, not original, for storing resin-cored solder in a convenient but more portable form is to wrap it into a coil round a lead pencil. Make the coil about 3 ins. long and leave a free end at least 1 in. longer. Remove the coil from the pencil and tuck the free end right



The completed dispenser

through the coil to protrude at the other end. Squeeze the last turn or two of the coil into a smaller radius to hold the solder point steady. As the solder is used a gentle pull will draw more from the opposite end. (211)

## Prepare for the summer now by making this ELECTRIC FAN

AN electric fan suitable for the workshop or home is extremely easy to make, utilising one of the ex-service motors which are so extensively advertised. There is no reason why such a fan should not prove as effective as a ready-manufactured one costing many times the price, while there is the added interest of making it oneself. During hot spells next summer its services will be especially appreciated.

### The Fan Blades

These were cut from ordinary tin-plate obtained by opening out a clean cocoa tin. Thin brass or aluminium sheet is easy to obtain, and could be used with a slight improvement in finish. Material thicker than 22 S.W.G. is not required. The longitudinal curvature of the blades makes them quite rigid.

Each blade is 4½ ins. long and 1½ ins. wide at the narrow end, increasing to 2½ ins. at the outer end. Three blades are cut, each exactly the same shape and size. Two small holes are drilled in each blade 1 in. apart and ¼ in. from the narrow end, as shown. These holes were clearance size for 6 B.A. bolts but if other bolts are to be used a suitable drill should be selected accordingly.

The blades are bolted to a centre disc

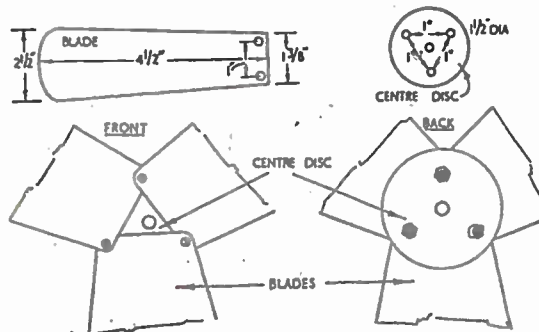


Fig. 1—How the fan is made up

1½ ins. in diameter. Scribe a circle ½ in. in diameter on it and draw intersecting lines at 120 degrees from the centre. Drill clearance holes at the intersecting points.

At the centre of the disc is soldered a bush suitable in size for the spindle of the motor used. To facilitate soldering and give sufficient strength material such as 18 or 20 S.W.G. brass is best for the disc. Three short bolts affix the blades, these being overlapped as shown if the

motor spindle turns clockwise. A spring washer is placed under each bolt head and nut. Afterwards these are varnished to remove any possibility of them becoming loose.

### Motor and Stand

Only a comparatively small motor is required, the one used being approximately 2½ ins. in diameter and 2½ ins. long and giving an amply-powerful current of air. This motor had a removable casing which was drilled near the centre. A pillar was cut from wood, rounded, and the top curved as illustrated to fit the curvature of the motor. A 2 B.A. screwed rod passing right down through motor casing, pillar, and base holds the whole together. The pillar is 3½ ins. high and a further hole, off-centre, was made for the motor leads. A small slot permits these to enter.

If appearance is considered important a tapered pillar is recommended. This could be turned to some simple pattern, increasing to about 3 ins. in diameter at the bottom.

A weight (about ½ lb.) was drilled and placed between pillar and base, but it was afterwards decided this was scarcely necessary. The base is of ply, 5 ins. in diameter, and fitted with small rubber

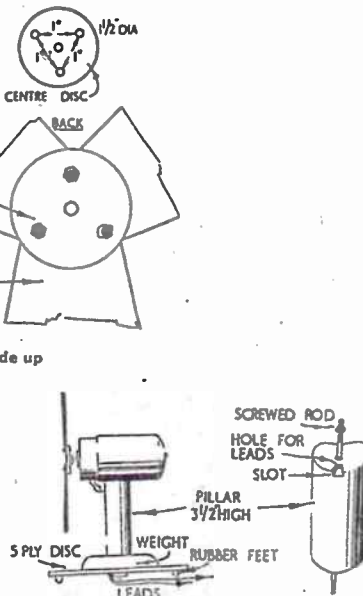


Fig. 2—The motor and stand



feet. A fairly large base is essential or the back-pressure from the fan will cause the whole to overturn.

Many different ex-service motors are available for a variety of voltages. Some motors have tapped holes or mounting brackets and a small base-plate can be bolted to these to permit the motor being mounted on the pillar. In other cases a strip of thin metal can be taken completely round the motor body, if necessary.

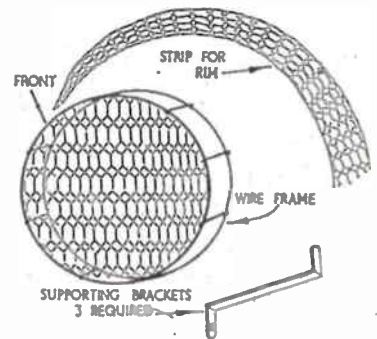


Fig. 3—Wire guard for the fan

### Adjusting the Blades

The blades should be given a fairly pronounced curve throughout their length. Then switch on momentarily to determine the direction of rotation and afterwards bend forwards the trailing edge of each blade. The leading edge of each blade should now be flat with the plane of rotation.

The degree of twist is in no way

(Continued foot of page 382)



# MISCELLANEOUS ADVERTISEMENTS

**L**ONELY? Join friendship circle. Details, 74d.—Secretary, 34 Honeywell Road, London, S.W.11.

**G**ENUINE approvals, genuine prices and genuine gift. Send postage.—Blair, 75 Heversham Road, Boxleyheath.

**M**AHOGANY plywood, new, any parcel £1 delivered C.W.O.—4 at 72x112x4 mm., 7 at 78x82x4 mm., 12 at 78x52x4 mm., 8 at 72x62x4 mm., 6 at 78x82x4 mm., 10 at 78x52x4 mm., 22 at 88x32x4 mm., 24 at 78x32x4 mm., 40 at 78x22x4 mm., 50 at 78x2x4 mm.—Leader (1920), Gosford St., Middlesbrough.

**S**TART new hobby in plastic. Complete parts for making table lamp. Only finishing and fitting needed, 16/6.—Scudio, 8 La Chasse, St. Helier, Jersey, C.I.

**50** STAMPS (new year surprise packet), free with approvals. Send 24d. now. Introduction gifts.—England, 18 Falkland Rd., Sheffield, 11.

**S**TOP smoking in three days or money back. Details, 21d. stamp.—Triumph Systems (H5), Heavitree, Exeter.

**P**ICTORIAL and triangular packet free. Send 24d. stamp and request bargain approvals.—W. Parry (H), 61 College St., Ammanford, Carmar.

## HOBBIES BRANCHES

### LONDON

78a New Oxford St., W.C.1

(Phone MUSEUM 2975)

87 Old Broad Street, E.C.2

(LONDON Wall 4375)

117 Walworth Road, S.E.17

(RODNEY 5599)

GLASGOW—326 Argyle Street

(Phone CENTRAL 5042)

MANCHESTER—10 Piccadilly

(Phone CENTRAL 1877)

BIRMINGHAM—14 Bull Ring

SHEFFIELD—4 St. Paul's Parade

(Phone 24671)

LEEDS—10 Queen Victoria Street

(Phone 24639)

HULL—10 Paragon Square

SOUTHAMPTON—25 Bernard St.

BRISTOL—38 Narrow Wine Street

(Phone 23744)

**H**AVE you got your Juneoro Riveting Jig Yet? From all Hobby shops or Post Free from Juneoro Ltd., Stirling Corner, Boreham Wood, Herts.

**D**DOUBLE-edged 16in. Pruners Saws, 8/-, post paid.—Hobbies Ltd., Dept. 99, Dereham, Norfolk.

**H**OME production workers required—either sex, interesting job. S.A.E. brings fullest details.—BCM/ASHGROVE, London, W.C.1.

**20** BRITISH Colonials free with approvals. Postage.—W. E. Tucker, 6 Higher Church St., Barnstaple, Devon.

**20** WORLD free. Send 24d. for super discount approvals.—Freeman, 14 Oldhill Place, London, N.16.

**B**ALL pen complete with two refills, 1/3, post paid.—Box No. 666, Hobbies Weekly, Dereham, Norfolk.

**STAMPS FREE!** Twenty unused (24d.).—G. H. Barnett, Limington, Somerset.

**W**ANTED—pen pals, hobbyists preferred. Write to—Jones Obateru, King's College, Lagos, Nigeria.

**F**REE! 45 worthwhile stamps. Send 24d. stamp requesting discount approvals.—C. Rogers, 31 St. Leonards Ave., Hove, 3, Sussex.

**S**UPER free gift! Complete set Poland Bierut (Cat. 2/1) to approval applicants enclosing stamp.—W. Standen, Claremont, Heckmondwike, Yorks.

**S**PARE time homeworkers, either sex, urgently required. Clean work, good pay. Write—Area 343, 88 Rutland Street, Leicester.

**I**NTERESTING work available for all in spare time. Experience unnecessary. Send S.A.E. for details to—Leathaweave' Co. (Dist. 37), 2 Tudor Rd., Leicester.

**M**ODELS. You can make lasting stone-hard models with Sankey's Pyroma Plastic Cement. Supplied in tins by Ironmongers, Hardwaremen and Builders' Merchants. Ask for instruction leaflet.

**D**UPLEX self-adhesive Transfers for decorating fancy goods, trays, plastics, etc. List and samples, 3d.—H. Axon Harrison, Jersey.

**D**OLL'S house fittings and papers; send S.A.E. for list. Doll's house plan special; send 2/6. Trade supplied.—Zimplan, 88 Ware Road, Hoddeston.

**L**ORRY kits, 4 mm. and 7 mm. scale. Also large range of spare parts from which to build to your own design. Send for fully illustrated catalogue—price 1/-.—Wilson's Lorrys Ltd., 6 Gt. Winchester Street, London, E.C.2.

**P**LYWOOD offcuts. Birch and Gaboon in various thicknesses. Handy sized parcels for the cabinet, toy, model maker and all handicrafts. Parcels made up in 12 and 10/- lots. Carriage paid. Send P.O. to—Reeves, Plywood and Timber Merchants, 33 Front Street, Monkseaton, Whitley Bay, Tel. W.B. 4677. Parcels are now despatched on day of receiving order.

**A**MERICA'S famous hobby magazines. One Year's supply Popular Mechanics, 32/-; Popular Science, 28/6; Homecraftsman, 16/6; Popular Homecraft, 18/-. Free Booklet listing all others sent on request.—Willen Ltd. (Dept. 57), 101 Fleet Street, London, E.C.4.

**H**OME Watch and Clock Repair Outfit. Includes watchmaker's magnifying eyeglass, tweezers, screwdrivers, oilers, oil, brush, dusting powder, plus illustrated explanatory book. Watch and Clock repairing simplified. In container, 12/9 inclusive.—D. Bolster (Dept. H.), 52 Station Parade, Ashford, Middx.

**500** DIFFERENT world stamps, 3/9. Approval.—H. Whitby, Godshill, Fording-bridge, Hants.

**STAMPS** Free—Empire Packet including Pictorial and Victorians free to all approval applicants.—Robert J. Peck, 7A Kemp Road, Bournemouth, Hants.

**C**ONJURING and Magic. New Tricks and Pocket Novelties every month. Lists, 4d.—Roboati, Magician, 363 Sandycroft, Kew Gardens.

**W**HEELS for Toys, etc., in Hardwood, Plastic and Rubber Tyred Metal. Doll's House fittings and papers. Doll's Cot and Pram fittings. Decorative Transfers. Beads for Counting Frames and other Toy accessories. Fine Art Pictures for Jig-Saws, etc. Stamp for lists. Trade supplied.—Joyden Toy Co., 193 Chase Side, London, N.14.

**M**ALTA 1d. to 3d., 1/6 per set. Other Br. Colonials in stock. Terms Cash. S.A.E.—Distribution Supplies, 54 Leopold Street, Leeds, 7.

**50** Free Stamps including pictorials to all applicants enclosing 24d. and requesting approvals. Medium and Junior. Postal Only.—Booze, 116 Newton Road, Mumbles, Swansea.

**S**TART making money whole or spare time on Spruduction of Slippers and Useful Leather Goods. Material Provided. Write for rates of pay and full details.—Dept. X, Grange Co., 2 Curzon Street, Leicester.

**K**UKLOS Annual. Indispensable cyclists' handbook. Tours, resthouses, money saving hints, 2/9, post free.—Burrow, Publishers, 2 Imperial House, Cheltenham.

**10/-** worth valuable stamps free! Approvals. Postage essential.—Mousley Stamps, Heanor, Derbyshire.

**F**REE Europe Catalogue, value 3/6 to Approval applicants sending 6d.—Hawkins (H.3), 247 Rotherhithe New Road, S.E.16.

**S**HIPMODELLERS should get in touch with Scottish Modelcraft, St. Mary's St., Dumfries. 1/- secures handbook and lists and details of our comprehensive and friendly service.

**100,000** Government Surplus Bargains. Heavy duty transformers, 230/12v. 10 amps, 25/-, post 1/8. Steel ammunition boxes, 12"x7"x6" (make useful tool box), 2/6, post 1/3. Aluminium rivets, approx. 1 lb. assorted, 2/6, post 6d. 4-way fuse boxes with fuses, 1/9, post 6d. Switches, resistances, cable, motors, etc., etc. 3d. stamp for catalogue. Money back guarantee.—Milligan's, 24 Harford St., Liverpool, 3.

tinned-copper wire. Three brackets, the length of which will depend upon the diameter of the motor, support the completed 'cage' or guard round the fan.

As with all mains-operated apparatus, the usual proper precautions should be taken. Use well-insulated flex, leave no bare joints, and employ a proper mains-plug of suitable type for taking power. If the power-point has a third (large) socket, this is for earthing the framework of apparatus connected. Here, 3-core flex can be employed, the body of the motor being wired to the earthing plug. (158)

## YOU CAN BECOME A HANDICRAFTS INSTRUCTOR

### EXPERIENCE NOT ESSENTIAL

Men who enjoy making things in wood or metal can turn their hobby into a permanent and interesting Career. Short hours, long holidays, and security in a job you would really enjoy, can be yours if you become a Handicrafts instructor. Let us send details of the easiest and quickest way to get the necessary qualification.

### We guarantee "NO PASS—NO FEE"

If you would like to know about our unique method of preparing you for one of these appointments, write today, and we will send you our informative 144 page Handbook—free and without obligation. Mark your letters "Handicrafts Instructor".

## BRITISH INSTITUTE OF ENGINEERING TECHNOLOGY BIET

595 Shakespearo House  
Stratford Place, London, W.1

## FLEXIMOULD

### FOR PLASTER CASTING

WALL PLAQUES, FIGURES, GARDEN ORNAMENTS, BOOK-ENDS, ETC. MADE IN YOUR OWN HOME. THE ALL-FAMILY HOBBY THAT ADDS POUNDS TO YOUR INCOME.



Write for  
**FLEXIMOULD**  
ILLUSTRATED LEAFLET to  
**DOHM LTD. (DEPT. H)**  
167 VICTORIA ST., LONDON, S.W.1

## THE FINEST OTHER HOBBY.



**FAST POSTAL METHOD**  
(With Written Guarantee)  
Treat written music as a mere pattern for a breath-taking SWING STYLE with our SIMPLE SWING COURSE.  
Also special RHYTHM COURSE for Beginners Whether Beginner, Advanced or Somewhere Between. Talentless, Old, Lethargic or Keen Send for interesting details without obligation

THE ASHBURNHAM PIANO METHOD, APM (1b), 221 Acton Lane, London, W.4

## J. WOTTON (Dept. H.) 140 HOLLINGS ROAD, BRADFORD, YORKS. ALL TYPES OF MOULDS 3/- each

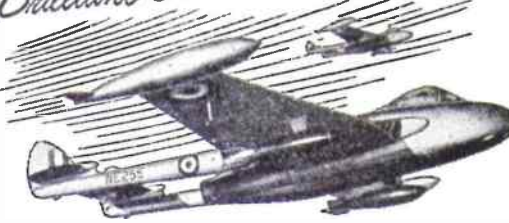
TOYS, ORNAMENTS, PLAQUES, ETC.  
New 1952 Illustrated Catalogue. Send 6d. stamps, refunded on first order over 10/-

## "NEW STYLE" BONUS APPROVALS

of cheap and attractive sets of stamps priced from 2d. to 1/- per set! These have already proved popular with readers of Hobbies Weekly. All new customers receive a FREE GIFT of 20 Pictorial Stamps and full details of our NEW BONUS OFFER through which YOU receive regular Free Gifts of highly catalogued stamps.

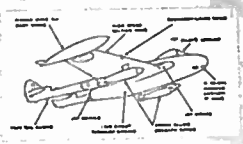
Send for your selection today enclosing 3d. postage  
**AUSTIN BROS.**  
27 CLARENCE ROAD, SOUTHEND-ON-SEA, ESSEX

## Brilliant Successor to the Vampire!



## De Havilland VENOM

The R.A.F.'s new jet fighter-bomber. Soon to replace the Vampire in Fighter Squadrons at home and abroad. Equipped with a new high-speed wing section with finned tip tanks. Powered by the D.M. Ghost turbojet engine. Wing span 41' 9".



"What are you going to be when you grow up?" That's a question every boy must face, and one that boys who join the Royal Air Force through the Apprenticeship Scheme can answer confidently. Three years at one of the R.A.F.'s boarding schools turns them into technicians as skilled as any in the country. Afterwards, they may service every kind of modern aircraft, or volunteer for aircrew. But wherever their career takes them, they are certain of an exciting life with really excellent pay and an assured future.

## There's a place for YOU in the R.A.F.

If you are over 14 this coupon brings you free a 32-page illustrated book about careers in the R.A.F.  
If you are 12-14 it brings you full details about the Air Training Corps.  
TO: ROYAL AIR FORCE (H.S.141A) VICTORY HOUSE, LONDON, W.C.2

**A FUTURE IN IT** NAME.....  
ADDRESS.....  
AGE.....  
DATE OF BIRTH.....

## EVERY CAR THAT PASSES YOU WILL FIND THE INDEX MARK ALPHABETICALLY ARRANGED IN WHERE'S THAT CAR FROM? Price 9d.

(from all Booksellers or from the Publishers (14d. postage)  
**RALEIGH PRESS, EXMOUTH**

## H.A.C. SHORT-WAVE EQUIPMENT

Suppliers for over 18 years of Radio S.W. Receivers of quality.  
One Valve Kit, Price 25/- Two Valve Kit, Price 50/-  
Improved designs with Denco coils. All kits complete with all components, accessories and full instructions. Before ordering, call and inspect a demonstration receiver, or send stamped addressed envelope for descriptive catalogue.  
**'H.A.C.' Short Wave Products, (Dept. 22.)**  
11 Old Bond Street, London, W.1

## KITS for OLD TIME SHIPS

Hobbies range of Ship Models includes Elizabeth Jones, Cutty Sark, Victory, Mayflower, etc. Complete kits of wood, sail material, guns, pulleys, cord, etc., with full size patterns of parts and planed wood ready to cut out, shape and construct. A fascinating pastime.  
Kits for models 7ins. long and upwards.  
Ask for free illustrated lists at Hobbies Branches or from Hobbies Limited, Dept. 99, Dereham, Norfolk.

## MAKING AN ELECTRIC FAN

(Continued from page 381)

critical, but will be found to influence the speed of rotation (and consequently the noise and current consumption) as well as the force of the draught created. With a totally enclosed motor the noise will be very small.

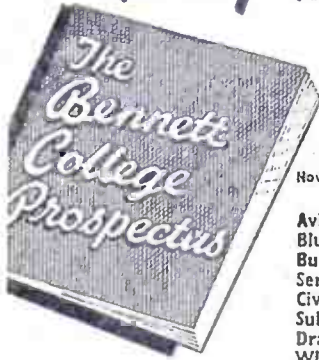
**Fan Guard**  
For use by the constructor in workshop or home where there is no danger of children or others touching the fan, no

guard is necessary. But if used at table level where there is any risk of cut fingers, then a guard such as that shown should be made.

It is made upon a wire frame of such a diameter that 3/4in. or so clearance is left for the fan blades all round and is about 1 1/2ins. deep. 16 or 18 S.W.G. wire can be used, and the wire-netting, of fairly small mesh, soldered in place or laced on with 26 S.W.G. or similar copper or



**FREE!** to those who wish to Qualify in any of these subjects



Now where does your career lie?

- Accountancy Exams
- Aviation - Eng. & Wireless
- Blueprints • Book-keeping
- Building • Chemistry • Civil Service • Commercial Art • Civil Eng. • All Commercial Subjects
- Diesel Engines • Draughtsmanship • Electric Wiring & Lighting • General Cert. of Education • Internal Combustion Engines • Joinery & Carpentry
- Languages • Mech. Eng. • Motor Eng. • Mathematics • Public Speaking • Plastics • Plumbing • Press Tool Work • Quantity Surveying • Radio Service Engineering • Radio (Short Wave) • Sheet Metal Work
- Salesmanship • Short Tech. Courses • Secretarial Exams. • Shorthand • Surveying • Teacher of Handicrafts • Telecommunications • Television • Transport • Viewers, Gaugers & Inspectors • Wireless Telegraphy • Works Management • Workshop Practice • and many others

This book costs you nothing.  
But it offers you success in terms of your career.

BY POST, specialised Tutors in these and many other subjects give individual and understanding attention to Bennett College Students to whom books are free. Tuition is guaranteed until you qualify. State your subject. Send coupon for prospectus as it applies to you.



You can start on a Bennett Course FOR ONLY **30/-** and monthly instalments of 15/-

To the Governor, Dept. L.62

**The BENNETT COLLEGE**  
SHEFFIELD, ENG.

Send me the free book on how I can Qualify in ..... (subject)

NAME .....

ADDRESS .....

AGE (if under 21) .....

PLEASE WRITE IN BLOCK LETTERS



Every time this door slams a little more of the mortar or putty drops out. Why? Because it sets hard and shrinks and does not really stick.

They should have used Seelastik.

Seelastik forms a watertight, airtight seal and remains flexible and elastic when set; it sticks tenaciously even to highly polished surfaces, such as glass, as well as to any combination of brick, cement, stone, plaster, wood, metal, tiles, glazed earthenware.

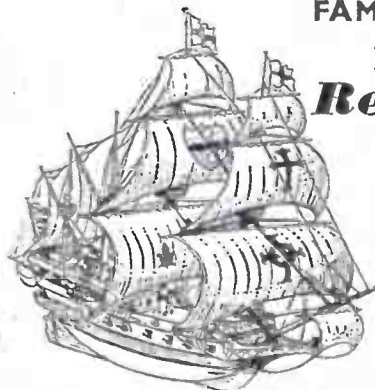
A Seelastik seal costs 1/4d. to 1 1/2d. a foot, depending on its width. It is light-coloured, and can be painted 24 hours after it is put on.

You can buy Seelastik — packed in handy cartridges, and applied by the Expandite gun (50/- with two nozzles) — or in 3/- tubes, which are self-contained sealing tools.

**Seelastik** SEALS THE GAP

EXPANDITE LTD., CUNARD ROAD, LONDON, N.W.10

**MODEL CRAFT** proudly announce  
**A MAGNIFICENT NEW KIT OF A FAMOUS SHIP**  
**The Revenge**



Here is a magnificent kit designed and produced by people who know ships. It builds into an accurate and beautifully detailed reproduction of the

**33/-** famous fighting 'Revenge.' The kit is complete and includes part-shaped timbers, 22 finely-turned brass cannon, rigging and full-size, clearly detailed plan. (add 1/6 for post & packing if ordering direct)

Inc. P/Tax FROM YOUR LOCAL MODEL SHOP OR DIRECT FROM

**MODEL CRAFT**

77(F) GROSVENOR RD., LONDON, S.W.1