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THE ORIGINAL  
'DO-IT-YOURSELF'  
MAGAZINE

# HOBBIES *weekly*

FOR ALL  
HOME CRAFTSMEN

Also in this issue :

PATTERNS FOR AN  
EDUCATIONAL TOY

COLLECTORS' CLUB -  
CIGARETTE CARDS

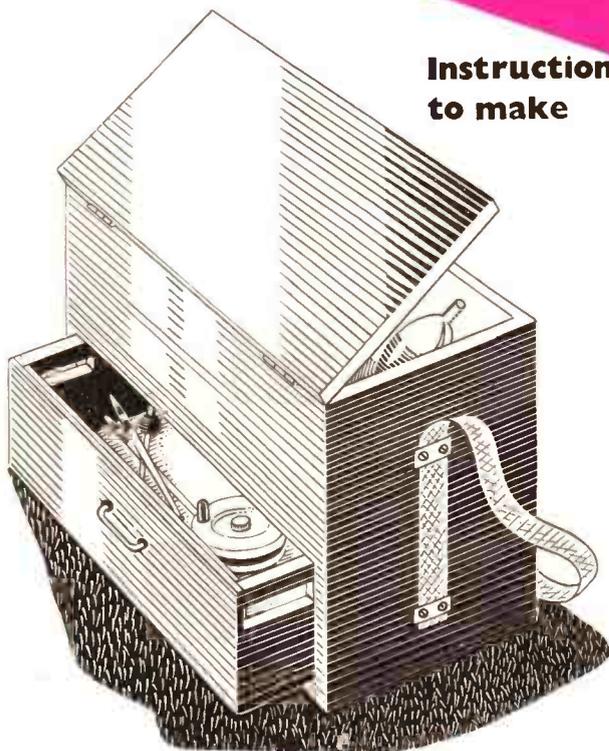
BEGINNER'S SHORT  
WAVE I-VALVER

JEWELLERY AND  
MODEL MAKING

TRUMP INDICATOR  
FOR FRETWORKERS

ETC. ETC.

Instructions  
to make



## **BOX AND SEAT** (FOR THE ANGLER AND HIS TACKLE)



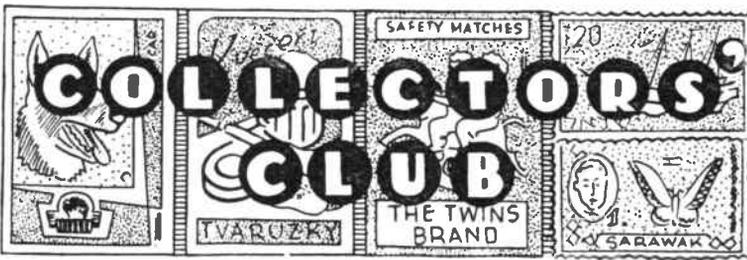
*Up-to-the-minute ideas*

*Practical designs*

*Pleasant and profitable things to make*

World Radio History

**5<sup>D</sup>**



**A**LTHOUGH over 20 years old, this set of cigarette cards of 'Old Inns' issued by W. D. & H. O. Wills is still obtainable for about 5s.

Of the 40 inns depicted surely the most curious is 'Ye Olde Trip to Jerusalem', Nottingham (illustrated). Bearing the date A.D. 1189, it is claimed to be the oldest inn in England. It was in this year that Richard I left for the Holy Land, and it is quite probable that the Crusaders met here for refreshment. Standing at the

## CARDS IN CIRCULATION OLD INNS

foot of Castle Rock, this quaint old inn has its cellars and most of its rooms literally hewn out of the solid rock. Many are the stories told of this historic house. A passage, known as 'Mortimer's Hole', leads into the Castle above, and it is said that Roger Mortimer, Earl of March (1287-1330), used this as a means of access to Queen Isabella's apartment.

The 'Scole Inn' (illustrated) is a famous coaching house situated on the main Ipswich-Norwich road. A local parish register of St. Andrew's Church, Scole, records that King Charles II breakfasted at the White Hart (as it was then called)

in September, 1671 — 'at the charge of the Rt. Hon. Lord Cornwallis'! The inn was built in 1655 by James Peck, a Norwich merchant. Peck employed a wood-carver named Fairchild to design and build, at a fee of £1,057, 'the noblest signpost in England'. This elaborate structure, which spanned the road, bore richly-carved figures 'of Charon and Cerberus, Actaeon and Diana, and many others; the signe itself is a "White Hart", which hangs downe carved in a stately wreath'.

Described by Charles Dickens as a 'clean and comfortable ale-house', the old 'Leather Bottle' is a charming timber-frame house just off the main London-Rochester road. Lovers of Dickens come from all parts of the country to visit the inn, and one of the rooms is devoted entirely to relics and pictures associated with the great novelist, including his favourite chair.

The 'London Apprentice' at Isleworth is at least 500 years old. It is supposed to have received its rather unusual name from the fact that apprentices from the Livery Companies of London used to row up the river and land at Isleworth for refreshment.

Standing at the head of Glencoe in the heart of the Highlands, the 'Kingshouse' today is a favourite fishing and mountaineering centre. The great Highland bard, Duncan MacIntyre, was a frequent visitor at the time when he was a shep-

herd. Coleridge and Wordsworth both spent nights at the inn.

In High Street, Winchester, is the remarkable half-timbered 'Hostel of God-Begot' (illustrated). The house takes its unique name from Aelfric, surnamed Godebegeata or Goodsgetter, and visitors are still reminded of its ancestry by the Saxon names attached to many of the rooms.

Other cards in this series feature equally interesting subjects and you will find this set of cards colourful in design and well worth having.

### BULGARIA

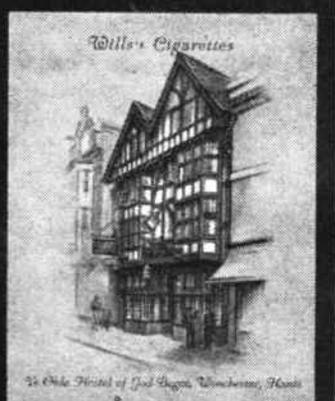
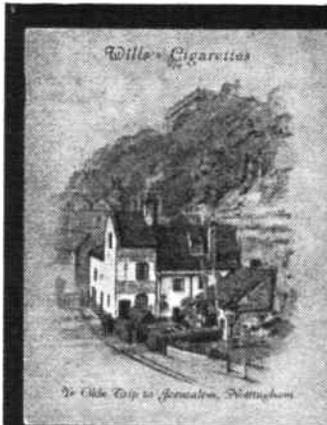
**T**HE 'BLACH SEA PHAUNA' pictorials of Bulgaria were released on June 19th, 1961. Designs are as follows:

- 2 ct. Green and dark brown — Seal.
- 16 ct. Blue and dark violet — Dolphin.
- 12 ct. Blue and rose — Medusa.
- 45 ct. Blue and brown — Sea Horse.
- 1 Lev. Green — Sea Fish.
- 1.25 Lev. Blue and brown — Sea Fox.



The first cosmonaut dogs — SIRELKA, CHERNUMKA, SVOSDOCHKA and BELKA — were depicted on a special stamp issued on June 28th.

The Russian Rocket to Venus was shown on another special stamp issued the same day.



Illustrated on front page

# ANGLER'S BOX AND SEAT

**T**HIS roomy tackle box, which can be slung over the shoulder, is ideal for the keen angler. Since it is strong enough to be used as a seat, it saves carrying extra weight in the form of a stool.

There is one large compartment at the top in which you can put items such as pike tackle, ground bait, plastic mac, etc. In the bottom is a drawer for smaller items such as quill floats, hooks, small reels etc. The drawer is held in place, while carrying, by means of a leather or canvas strap which also keeps the lid in position.

Use exterior grade plywood for pre-

ference. It will withstand wet conditions and if well painted will last for years. If you can obtain it locally the best grade to use is B.S.1088, which is a marine grade used for boats. It costs a little more but is well worth the extra shilling or two.

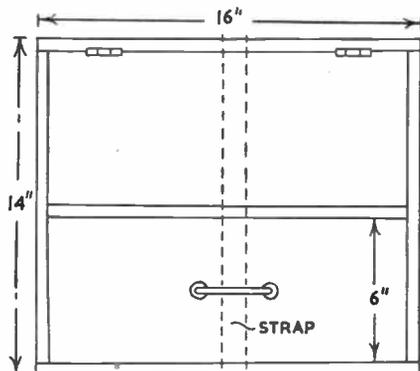
The main dimensions are shown in the front and side views in Fig. 1, but of course these may be modified to suit your own particular requirements. Note that the positions of the straps are shown dotted.

Pieces A, B, C, D, and E are cut from  $\frac{1}{2}$  in. plywood and are glued and screwed together as indicated in Fig. 2. The dis-

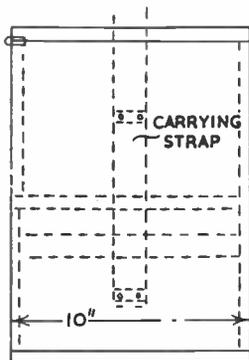
tance between pieces C and E is 6 in. as shown in the front view. Use waterproof glue throughout.

The lid F, is now added as seen in Fig. 3. The  $1\frac{1}{2}$  in. butt hinges are recessed to give a perfect fit. Reinforce the corners by adding triangular fillet. The drawer guides L are fixed to the ends A later, after the drawer is finished. Make up the drawer as shown in Fig. 4, cutting pieces G, H, and I from  $\frac{1}{2}$  in. plywood. The bottom can be of  $\frac{1}{8}$  in. hardboard. Secure the pieces with glue and screws. Finish off by adding a front of  $\frac{1}{4}$  in. plywood as indicated in Fig. 5.

The Hobbies No. 703 handle is fixed



FRONT VIEW  
Fig. 1



SIDE VIEW

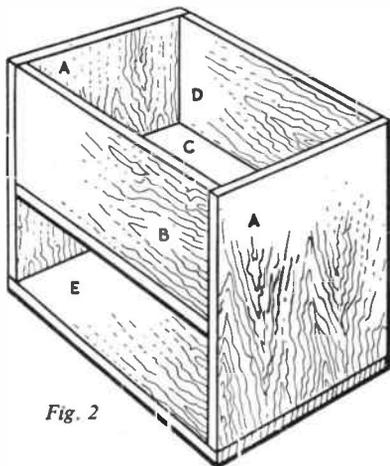


Fig. 2

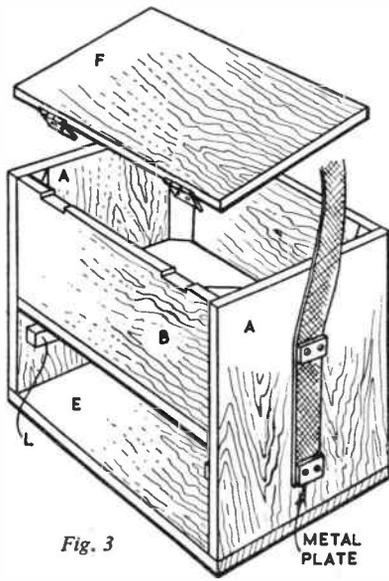


Fig. 3

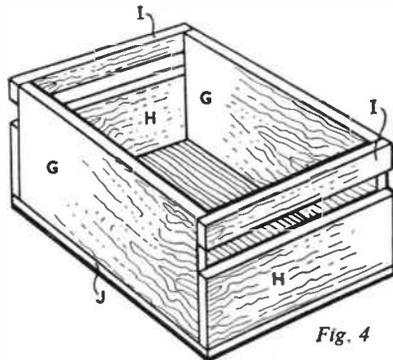


Fig. 4

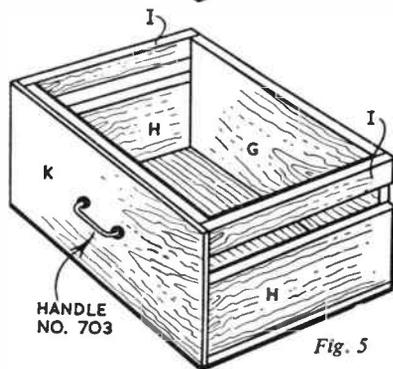
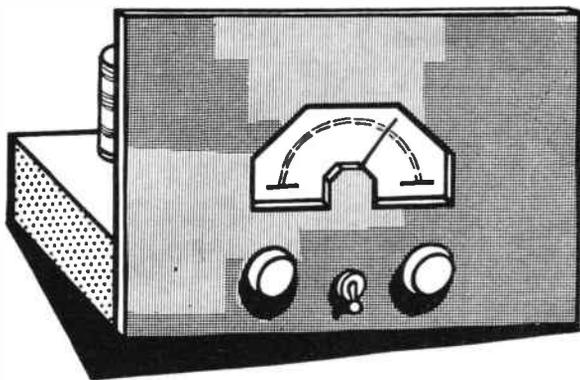


Fig. 5

in the position shown. You can obtain this chromium plated handle from Hobbies Ltd., Dereham, Norfolk, price 1s. 9d., postage 4 $\frac{1}{2}$ d.

The carrying strap, made from canvas webbing or leather, is fixed to the ends by means of metal plates secured by screws.

Clean up with glasspaper and give a coat of clear wood preservative such as Cuprinol. Finish off with an undercoat and two top coats of exterior grade paint. (Mh.)



*Suitable for beginners*

# SHORT WAVE ONE-VALVER

*Described by  
'Radio Mech'*

**W**ITH a one valve set, stations can be received over very great distances on the short wave bands. The receiver described here uses plug-in coils, and can thus tune to any wavelength needed. It runs from a  $1\frac{1}{2}$ V. dry battery, and  $67\frac{1}{2}$ V. or similar H.T. battery, and both these batteries will last for a long time. The valve employed is a 1S5, or any of its equivalents, such as the CV784, DAF91, 1FD9, or ZD17.

For the filament supply, an 'all dry' receiver  $1\frac{1}{2}$ V. battery can be used, or one or more torch battery cells. If more than one cell is employed, the cells must be wired in parallel, and more than  $1\frac{1}{2}$ V. must never be used. With this kind of battery, the zinc case is negative.

The circuit is shown in Fig. 1, and the component values are not very critical. Those given are, however, most generally suitable. As the receiver is suitable for beginners, a few brief details of the components may be helpful.

### Components used

The 100pF fixed condenser could be marked  $.0001\mu\text{F}$ , which is the same. The 30pF condenser is a pre-set one. That, is it can be adjusted with a screwdriver. A 25pF or 50pF condenser may be fitted instead, without any effect on results.

The 300pF ( $.0003\mu\text{F}$ ) variable condenser is for reaction, and is secured to the panel with a nut on its fixing bush.

For tuning, an air-spaced condenser of about 150pF or 200pF is used, and is operated by a drum and cord reduction drive.

The High Frequency Choke should be for all-wave or short wave purposes. The valve requires a B7G holder. Any kind of on-off switch will be satisfactory. Two twin socket strips are also needed, for aerial, earth, and phone connections.

### Tuning coils

The coils have two windings each, and can be made up as in Fig. 2. Here, an

insulated tube is fitted to an old valve base, and the ends of the windings are taken to the valve pins. The required coil can then be inserted into the valve-holder or coil-holder, fitted in the receiver.

If coils are made in this way, it is necessary to have a number of old valve bases of the same type. These can be old 4-pin or 5-pin bases, or octal or other bases, with a holder to suit. If there are more than four pins, unrequired pins are simply left unused. The insulated tubes should be a tight fit on the valve bases, so that they can be cemented in position. Tubes can be made by winding glued

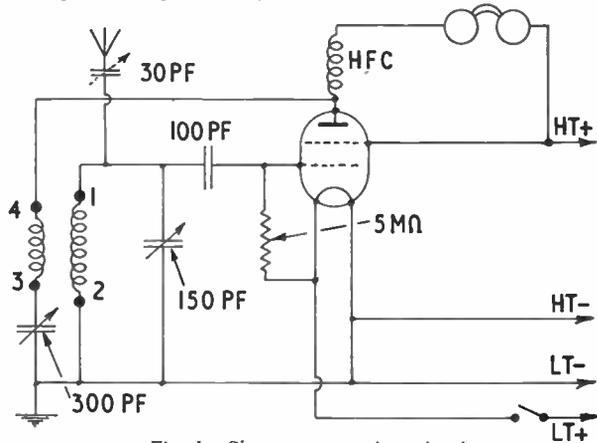


Fig. 1—Short-wave receiver circuit

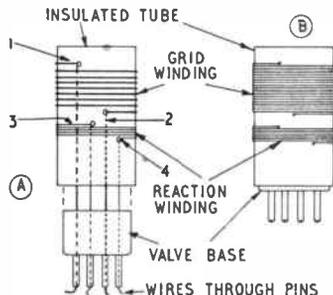


Fig. 2—Two plug-in coils

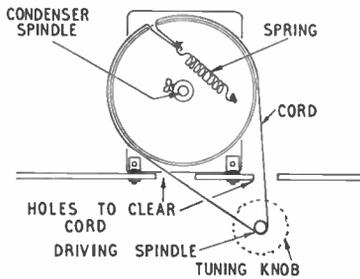


Fig. 3—Cord tuning drive

brown paper tightly round a suitable object, and allowing to dry. The tubes are then varnished, and again allowed to dry, to stiffen them, and improve insulation. Paxolin or card tubes can be cemented to the valve bases, or held in place with two small bolts.

If no old bases are to hand, ready-made plug-in coil formers can be used instead. These are available complete with pins and holder, and ready for winding.

Each coil has a grid winding, between points 1 and 2, and a reaction winding,

between points 3 and 4. The windings must be connected correctly, so the ends are numbered in Figs. 1, 2 and 6. Fig. 6 shows a holder to take old type 4-pin valve bases. There is, of course, no need to use this type of holder, except for 4-pin bases. The plug-in coil formers mentioned must have the holder made for them, which has sockets in different positions. Octal valve bases will need an octal (8-pin) holder. The actual positions of the pins makes no difference at all. But all the coils must be made in the same way, so that any coil can be inserted in the holder.

With the coils for very low wavelengths, the grid turns are spaced, as at A in Fig. 2. The actual spacing is of no

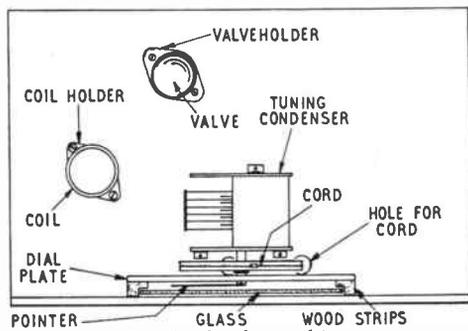


Fig. 4—Condenser drive and other parts

importance, and can be so as to give about eight or ten turns per inch. For the larger coils, turns are side by side, as at B. A clear space of about  $\frac{1}{4}$  in. is left between grid winding and reaction winding, and both windings must be in the same direction, as in Fig. 2.

If old valve bases are used, melt the solder on the pins with an iron, and clear the pins out. Make a small hole in the tube, thread lead 1 down through its pin, and solder it. After winding the grid coil, take lead 2 down to its pin, draw it tight, and solder it. The reaction winding is made in the same way. Clip the wire ends off near the valve base pins, and clear away excess solder which would prevent the coil being inserted in its holder.

Ready-made plug-in formers may be 'threaded' or 'plain'. The coils have ribs, and the threaded formers have small notches in these ribs. The wire is wound in these notches, so as to give an evenly spaced winding. For the larger coils, plain formers are used, and have no notches in the ribs. The turns are then side by side.

If the exact number of turns listed is not employed, this will not reduce efficiency, but will merely alter the actual wavelengths covered slightly. In the same way, some changes to the diameter of the coil will be of no importance, and the

exact gauge of wire given below need not be used.

Normally, all the coils given will not be needed, as two or three coils will cover the most important wavebands. However, it is quite easy to make extra coils, if it is necessary to tune as many bands as possible. This is, of course, one of the great advantages of a receiver using plug-in coils.

**Coil 1.** Grid: 7 turns 20 s.w.g., spaced. Reaction: 5 turns 28 s.w.g. enamelled, side by side. (14–31 metres).

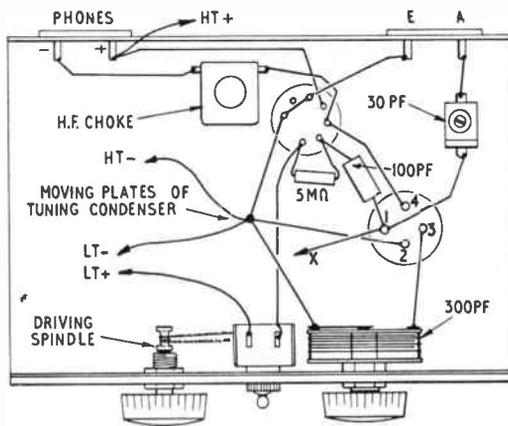


Fig. 6—Receiver wiring plan

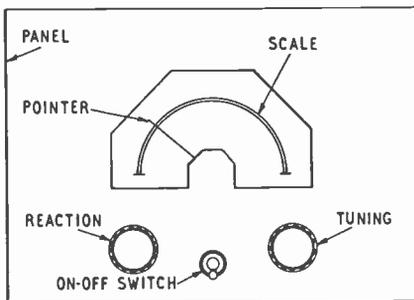


Fig. 5—Panel, tuning scale and controls

**Coil 2.** Grid: 20 turns 20 s.w.g., spaced. Reaction: 13 turns 32 s.w.g. enamelled, side by side. (30–65 metres).

**Coil 3.** Grid: 30 turns 24 s.w.g. enamelled, side by side. Reaction: 15 turns 32 s.w.g. enamelled, side by side. (50–100 metres).

**Coil 4.** Grid: 60 turns 26 s.w.g. enamelled, side by side. Reaction: 25 turns 36 s.w.g. enamelled, side by side. (100–200 metres).

These details are for formers about  $1\frac{1}{4}$  in. in diameter. If a coil is required for medium wave listening, it can have 95 turns of 32 s.w.g. enamelled wire, side by side, with 45 turns of 36 s.w.g. enamelled or other fine wire for reaction. Alternatively, a ready-made medium wave coil can be mounted on an

old valve base, and wired to the pins, so that it can be inserted in the holder.

### Tuning drive

The tuning condenser is mounted on the receiver chassis by means of small brackets, or is attached to a large strong bracket at its fixing bush. The reduction drive drum is secured to the spindle with a set-screw, the spindle projecting about  $\frac{1}{4}$  in. Fairly large clearance holes are cut in the chassis, so that the cord can pass down to the driving spindle, as in Fig. 3.

The driving spindle bush will be seen in Fig. 6, and the bush nut holds it in place. The thin driving cord is taken once right round the driving spindle, up through the chassis holes, and round the drum. Both ends of the cord are drawn through the drum slot, and are attached to the spring, being tied so that the spring is under tension. The condenser vanes should be about half open when the drum slot is in the position in Fig. 3.

Fig. 4 shows how the dial is constructed. The condenser spindle projects through a clearance hole in the dial plate, which can be cut from thin wood. A wooden strip is glued to the dial plate and panel each side, to hold it as shown in Fig. 4. These strips are rebated to take a piece of glass. Celluloid or other transparent material would do instead.

A piece of 20 s.w.g. tinned copper or similar wire is drawn out straight, and soldered to the condenser spindle, to form the pointer.

The panel is shown in Fig. 5, and has a window through which the scale and pointer can be seen. Note that a projection is left in the centre, to conceal the condenser spindle.

When the parts have been prepared, the dial and drive can be fitted as shown, but the glass should be left out for the present. The scale is drawn upon strong white paper or thin card, and can be slipped into place behind the pointer.

When the tuning position of various wavebands has been found, these can be marked on the scale. Finally, the glass can be inserted.

If a 0-180 degree scale is preferred, a cheap card protractor will do very well for this. The tuning positions for various stations can then be noted down in a log book. The tuning drive will work smoothly and easily, if the cord and pointer can move freely without touching any fixed parts.

### Wiring up

The panel can be of 3-ply, about 8½ in. by 6 in. high. The chassis is of similar size, with 2 in. deep runners. An aluminium chassis can be purchased ready shaped. Alternatively, a piece of aluminium 8½ in. by 10 in. can have two 2 in. runners bent on it. The chassis may also be constructed from wood — a piece of 3-ply 8½ in. by 6 in. for the top, and 2 in. strips of ¼ in. wood for the sides.

A metal chassis can be secured to the panel by means of the switch, reaction condenser, and tuning drive bush, as in Fig. 6. Bolt the two socket strips at the rear of the chassis. Clearance holes must be provided, so that the sockets do not touch the chassis.

Some 20 s.w.g. or similar wire can be used for connecting up, with insulated sleeving where required. Tinned copper wire will solder very readily, if a cored solder is used, and the iron is hot enough.

All wiring is shown in Fig. 6. Connections should be reasonably short and direct. The tuning condenser is mounted above the chassis, and lead X (from 1 on the coil holder) goes to the fixed plates of this condenser. With a metal framed condenser, one fixing bracket will form the frame and moving plates connection. Here, a bolt passes through the chassis, and forms a connecting point for the H.T. negative, and other leads shown in Fig. 6. If the condenser is an insulated type, take a short wire from its moving plates tag to this bolt.

With the 300pF reaction condenser, note that the moving plates are connected to the earth circuit, and the fixed plates to 3 on the coil holder. Grub screws hold the two control knobs to the spindles.

Lengths of coloured flex are used for battery leads. They may be equipped with suitable clips or plugs, or may be marked to identify them. Take care never to connect the batteries wrongly.

▶ If a wooden chassis is used, this is merely to hold the components. But if a metal chassis is employed, this must be connected to earth. This will be done by the bolt used for the H.T. negative and other earth circuit wires, already mentioned.

### COMPONENT LIST

100 pF fixed condenser, 4d.  
5 megohm resistor, 3d.  
B7G holder, 9d.  
1½ in. dia. knobs, 9d. each  
30pF pre-set beehive, 10d.  
Plugs, 3d. each  
1S5 valve, 6/-  
Cored solder, 6d.  
Ready-made chassis (8 × 6 × 2½), 6/3d.  
Above may be obtained from Alpha Radio Supply Co., 103 Leeds Terrace, Wintoun St., Leeds 7

150pF tuning condenser, 8/6d.  
Switch, 2/-  
Nylon Cord, 2d. ft.  
Drive, 2/-  
Coils, 2/6d. each  
2-way sockets, 6d. each  
Coloured flex, 2d. yd.  
6B.A. nuts, 4d. doz.  
300pF reaction condenser, 4/6d.  
Drum (2½ in.), 1/8d.  
Spring, 2d.  
H.F. choke, 2/6d.  
Holder for coil formers, 2/-  
Sleeving, 3d. yd.  
½ in. 6B.A. bolts, 6d. doz.  
Wire, 2/- to 2/8d. 2 oz. reel  
Above may be obtained from Home Radio (Mitcham) Ltd, 197 London Road, Mitcham, Surrey

### Using the receiver

Insert valve and a coil, and plug in medium or high resistance phones. An earth will improve results, and it is taken to the socket marked E in Fig. 6. The socket A is for the aerial. An out-door wire, even if quite short, will give best results, especially if it is well clear of walls and earthed objects, and is reasonably high.

With batteries connected, and the set switched on, slowly close the reaction condenser until a rushing sound, or

actual oscillation, is heard. The condenser should then be opened very slightly, and the control knob is adjusted, while tuning, to keep the receiver almost on the point of oscillation. In this condition, it is very sensitive to weak signals. If the reaction control is turned back too far, weak signals will not be heard. On the other hand, if this knob is turned too far, the set will oscillate, when tuned through a station, and reception will be poor. Some care is thus necessary, or distant stations will not be received.

If oscillation cannot be obtained on some wavelengths, the 30pF condenser is unscrewed slightly. This is most likely to be necessary with long aerials, or when tuning to very short wavelengths.

Transatlantic and other distant stations are most likely to be heard on the 19, 25, and 31 metre bands. Amateurs use 15, 20, 40, and 80 metre bands. Overseas amateurs are most likely to be heard on the 15m. or 20m. bands. Amateurs in the British Isles will be most easily heard on the 80m. band, especially at week-ends. Ships and other amateurs use wavelengths around 160m. The time of day has a great effect on the results obtained on the various bands.

A component list is given for the aid of constructors who wish to obtain parts by post. All the items listed may not be needed, in some cases. The cost can also be reduced by using surplus parts, instead of the new components listed. The prices given are as a guide, and may be expected to vary slightly. The necessary items can, of course, be obtained from many other postal supply stores.



"IT ISN'T THE SET AFTER ALL, ANDY — IT ONLY WANTED A SHILLING IN THE METER."

# MAINLY *for* MODELLERS

IN the design of the ships of the late eighteenth century we were again dependent on much we learned from the foreign ships, mainly captured prizes, particularly French. Although not actually copied, the ideas taken from the designs of captured ships were adapted and followed out in our own way.

One of the types introduced to the Navy in this way was the heavy frigate. This carried 24-pounder guns instead of our usual 18-pounders, thus starting a new class or type starting from forty guns to vessels of 1,500 tons and carrying sixty guns.

At this period while there was no radical change in the shape of the ships below the waterline there were marked differences in the design of the upper works.

In the *Victory* we have a good example of one of the changes in design. This was the introduction of the closed stern in place of the open stern galleries. The introduction of the round bow also enabled more armament to be used on either bow.

Although during the closing days of the eighteenth century solid bulwarks were introduced on the French men-of-war, it was some while before the British replaced the open timber heads along the fore-castle, quarter deck and poop with solid bulwarks; new three-deckers built at the turn of the century were fitted with bulwarks which then became the general practice.

At the beginning of the new century a stronger method of building warships was introduced by Sir Robert Seppings to overcome the effect of 'hogging' in wooden ships. This hogging involved the dropping of the bow and stern out of true and became more of a problem as the length of warships increased. The improved method of hull construction was the use of diagonal ties or struts. This, together with the previous introduction of round bows and sterns and the use of bent iron for knees etc, made a ship of stronger construction, although somewhat slower in speed.

The size of the ships was still increasing and the first of the larger 120-gun vessels was modelled on the captured French warship *Commerce de Marseille*.

In like manner the war of 1812 with the United States forced upon us the knowledge that our frigates, comparable to our modern cruisers in their uses, were no match for their American counterparts, our opponents having some of

unusual size and armament. We thus had to design an improved class of frigate.

In improving the design for the hull Sir Robert Seppings had the spaces

## WOODEN SHIP BUILDING—16 By 'Whipstaff'

between the timbers (or ribs) filled in solid with timber, instead of the previous method of transverse ribs, with spaces between, thus presenting a solid mass of timber in the lower hull to resist the 'working' of the timbers in use at sea.

Also at this time he introduced shelf pieces and waterways, the purpose of

these being to give additional strength to the beams. The shelf pieces ran fore and aft below the knees and the waterways fore and aft above the beams.

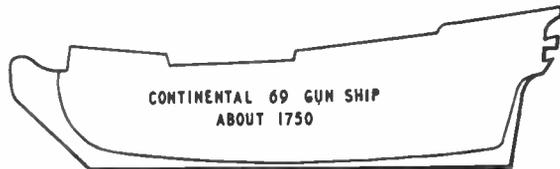
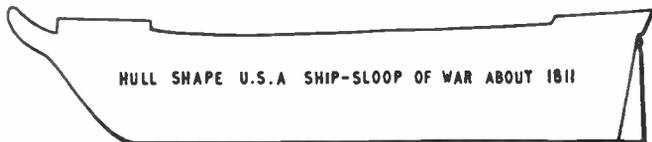
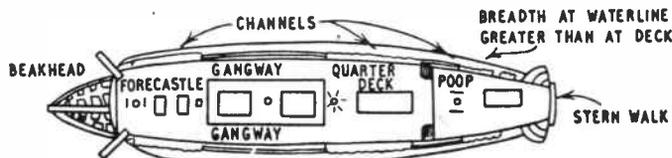
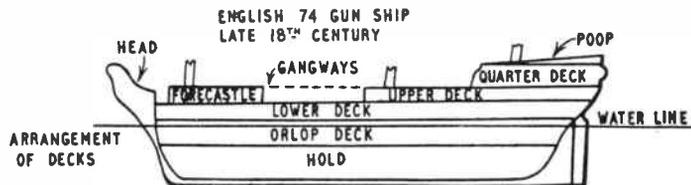
The late seventeenth century saw the ships with a very bluff entry, double wales, less rake than the types of the Stuart period, beakhead bulkhead one deck deep, curved and shortened beak.

By the middle of the eighteenth century, while the entry was still very bluff, the beakhead has become very short. The wales were joined and no longer double in pairs, and projecting stern walks aft were still a feature. Channels had been raised to quarter-deck level, the mizzen channels to poop deck level.

At the end of the century the wales were less prominent. Planking was thicker and on most ships the elaborate open sterns had been replaced with the closed stern, although the 'head' of the ship had changed little in shape.

During this period as noted earlier, the main fighting ships were the seventy-four-gun vessels and the sketches give some idea of the layout of this type of ship, hull shape, decks and layout of upper decks.

Other sketches show some of the difference between English built hulls and those of the French and American Navies.

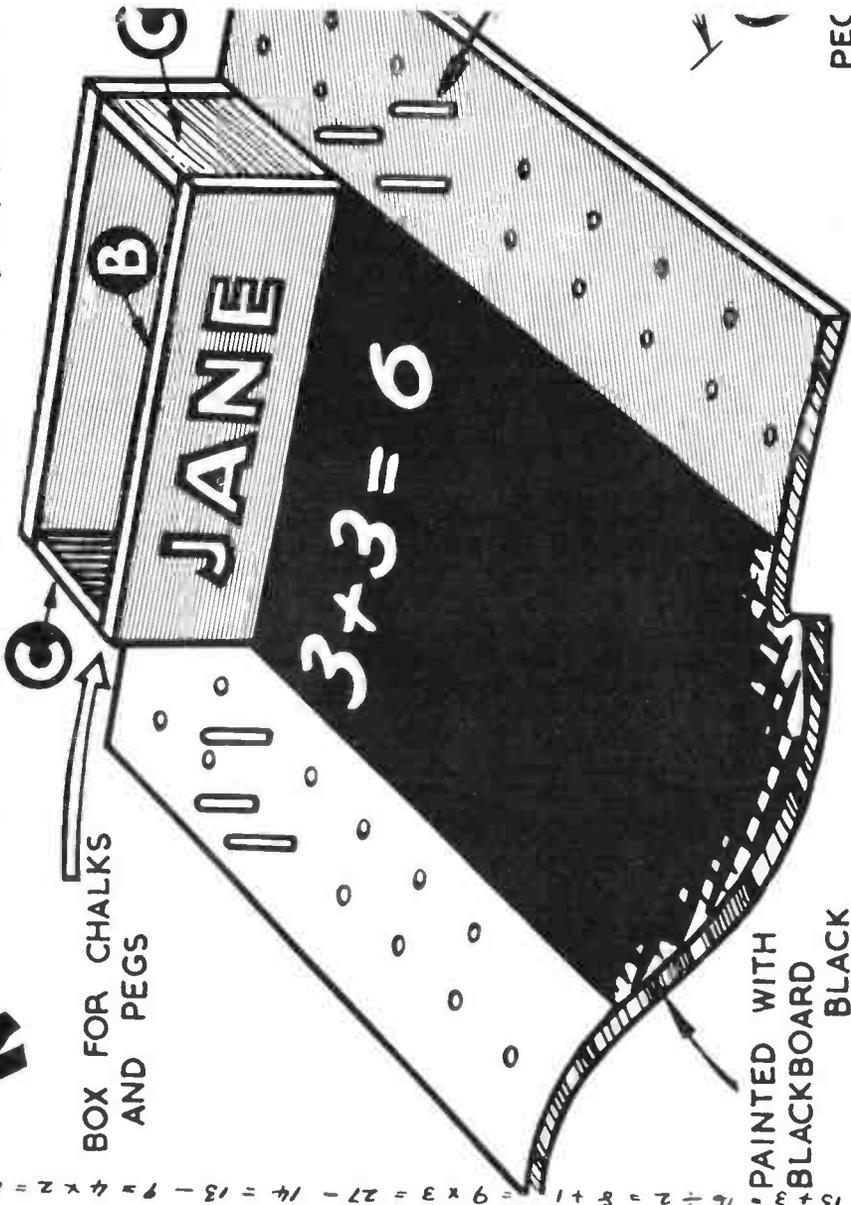


7 x 3 = 21 + 4 = 25 + 3 = 28 - 6 = 22 ÷ 2 = 11 + 1 = 12 + 3 = 15 ÷ 3 = 5 + 2 = 7 + 2 = 9

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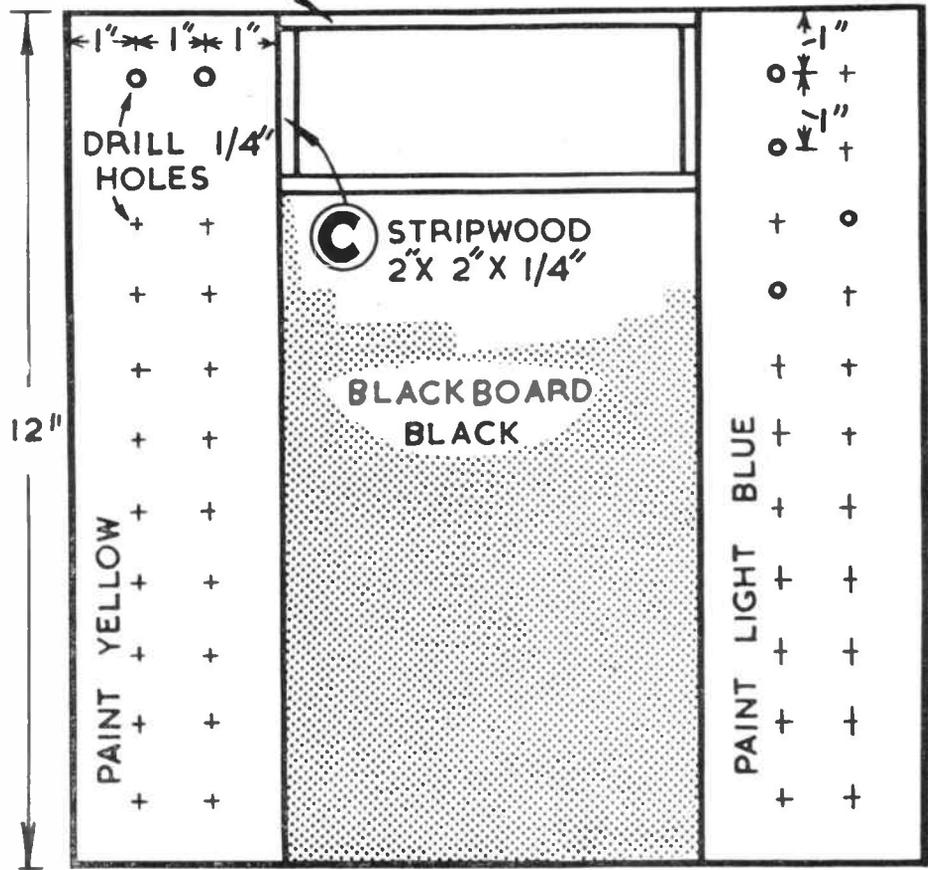


PEC  
1/4  
24

2 + 3 = 5 - 2 = 3 + 4 = 7 + 2 = 9 - 7 = 2 - 2 = 0 + 8 = 8 + 3 = 11 + 4 = 15 - 4 = 11 x  
2 + 11 = 13 + 3  
16 ÷ 2 = 8 + 1  
9 x 3 = 27 - 14 = 13 - 9 = 4 x 2 = 8 ÷ 2 = 4 x 6 = 24 + 1 = 25 - 9 = 16

2 = 11 - 7 = 4 x 4 = 16 + 3 = 19 - 12 = 7 + 3 = 10 ÷ 5 = 2 x 6 = 12 + 1 = 13 - 13 = 0

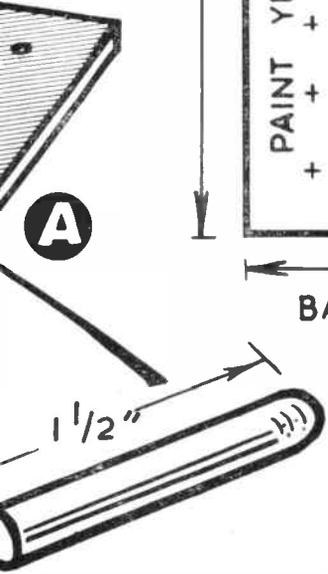
**B** STRIPWOOD 6" X 2" X 1/4"



12"

12"

BASE **A** CUT FROM 1/4 PLY



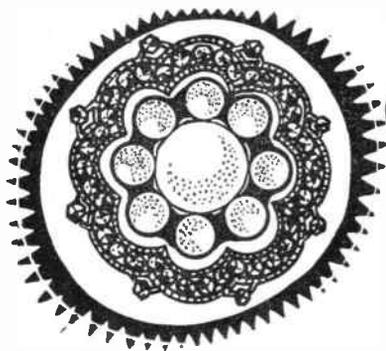
ARE CUT FROM  
" ROUND ROD CUT  
PAINT BRIGHT RED

**IT ALL ADDS UP TO LIGHT HEARTED LESSONS**

3 = 33 + 3 = 36 + 3 = 12 + 1 = 13 -

4 + 6 = 10 + 10 = 20 x 2 = 40 ÷ 4 = 10

10 + 1 = 19 + 2 = 21 x 3 = 63 - 21 = 42 - 12 = 30 ÷ 10 = 3 + 6 = 9 + 1 = 10 - 4 = 6 + 6 = 12 - 1 = 0



# Hand-Made JEWELLERY



**H**AVING completed all soldering on the ring, and pickled it to remove the dark oxides, next file the bottom of the under-bezel to complete the curve of the shank.

## FINISHING THE SOLITAIRE

*By Peter Wix*

Now you must follow the polishing routine exactly as described for completion of the first project in this series of articles. If you use a power-driven mop, you will find that a little metal is removed from the tips of the claws. This is why all but the final light buffing is done at this stage. You must also be very careful not to catch a claw on the spinning mop.

The setting, as supplied, has an inside diameter slightly smaller than the stone. This is to allow for cutting the shoulders in the claws, which act as a bearing and support the stone, preventing it in the setting process from being forced downwards like an ice-cream in a cone.

Start by filing the end pairs of claws. Fig. 1 shows an end claw. The depth of the cut is to just below the level of the ring shoulder, with rather less than half the thickness of the claw cut away. You can use a slim barette file. Starting with the two end claws, bend the two adjacent claws slightly inwards until you have room to work. To file the other claws, bend them slightly outwards, one at a time, returning each one, as completed, to its original position. They will not break if you avoid sharp bends.

Next try the stone for a good fit. There should be no gaps between the stone and any of the claws, and a sufficient length

of claw to hold the stone securely when bent and burnished onto it. File off the squareness from the end of each claw, aiming at a tapering but rounded point. Remove metal only from the outside. Above all, avoid weakening the claws by making them too thin: the action of burnishing will thin them even more.

### Temporary setting

The stone can be held in position for setting by warming ring and stone in the hot air from your spirit lamp, then holding the ring upside-down on the bench and letting some melted sealing-wax or stone-setter's shellac half-fill the inside of the setting. Any of this cement that gets in the way can be chipped from around the claws with the point of a pen-knife. With a small piece of hardwood press one of the claws half way on to the stone. Do the same with the claw immediately opposite, and carry on in this way until all the claws are half way to being set. Then repeat the process, this time pressing each one firmly on to the

slip off the claw, for the steel may strike the stone with considerable force.

Rub a finger over the stone when setting is complete, and give any sharp or rough places a careful rubbing with the burnisher. Avoid using any abrasive on the claws. With the exception of diamonds, most stones are quite easily scratched.

Assuming that there have been no bad slips with the point of the burnisher, your ring needs only a good polish with rouge (this will not hurt the stone), a prolonged soaking in methylated spirits to remove the shellac or sealing wax, and a final brushing in hot detergent or washing soda.

### Settings from gallery strip

Larger settings, suitable for rings, earrings or brooches, where the stone is of any shape other than square or rectangular, can be very attractive if made from gallery strip. This can be bought in silver, gold, or even platinum, in a variety of styles and in sizes varying from 3 mm. to 9 mm. in width. Fig. 2 shows a typical style. It is ordered by length. There is a fashion charge of between 2s. 9d. and 4s. 6d. per foot according to the pattern. The weight of metal is charged in each case. Thus, a strip 12 in. long of the pattern illustrated, 7 mm. wide, costs 4s. 6d. plus the weight of metal. In silver this makes the total cost about 6s. 6d. per foot.

The opening of a setting made from gallery should always be larger at the top than the bottom, the angle being far more pronounced in a ring than in the case of a larger brooch. The setting is made smaller than required and afterwards opened out to take the stone.

Begin by annealing the length of gallery. Bend one end of it round the stone, then make it smaller, until you judge that, when soldered up as a setting and opened to a conical shape to fit the stone, its sides will then slope at the desired angle. You have to foresee the result; there is no rule or formula.

Cut the strip with the saw, file the ends true and solder them neatly. The join must be mid-way between two claws, and these claws must be the same distance

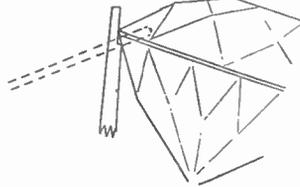


Fig. 1—Filing an end claw

stone. Now go over them all again, using the small end of the burnisher described in the first article.

You must still work in pairs as before, pressing the claws down with a slow rubbing motion, and avoid tightening any one claw excessively. It is a business that cannot be hurried, and if claws are brought down very gradually no stones will be broken. You may have to go round the setting five or six times. The final tightening is done on the very tip of each claw. Hold the burnisher very near the point for this, and avoid any sudden

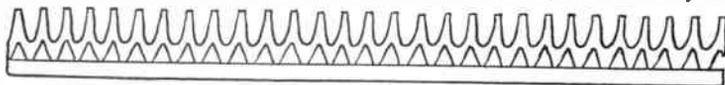


Fig. 2—Gallery strip

● Continued on page 59

# He makes the most of Matches

IT was 24 years ago when Mr Vine of New Street, Weymouth, decided to have a go at making something with a handful of matches. Little did he realize how many pleasant hours he was to spend in perfecting his hobby. Not only are his articles decorative and artistic, they are also quite practical.

It appears his most proud exhibit is the 100 year old grandfather clock he re-housed in a case, which took the colossal number of 140,165 matches to complete. This took him over a year to make and required a true to scale drawing from which to work.

When asked how he could possibly know how many matches he used, he replied, 'All my matches are kept in bundles of a hundred before I start, which enables me to keep quite an accurate number of the total I use.'

Looking around his sitting room I espied not only two more clocks, but also a draught board table complete with matchstick draughts and box, two fire-side ash tray stands, a tea tray, firescreen, book ends and tobacco jar, all made from used matches.

Then there's the walking sticks, and the visitor invariably remarks they are hollow or ordinary sticks veneered. Mr Vine replies that all five sticks he has made are genuine 'match' sticks, and he will even break one in two for a fiver to prove he's right. So far no one has taken him on!

It was a walking stick that Mr Vine first 'tried his hand' at. And it's one of

By

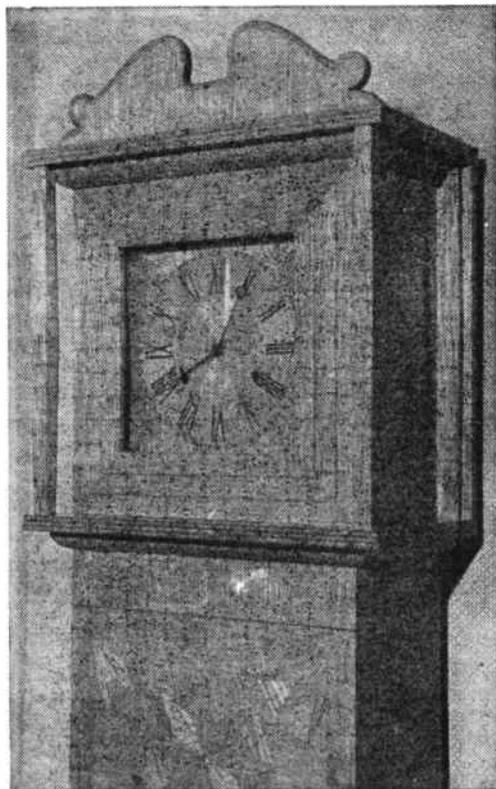
R. J. Symes

his gestures to present one of these to any one of his workmates who retires from the Weymouth Corporation, where he is employed as a carpenter.

His method of construction is to lay the matches on to a paper template (even the burnt ends can form interesting line work) and secure them with glue, planing the paper off afterwards.

There is usually a pattern inlaid in his work, and each layer is laminated to add strength to the article and prevent warping. All surfaces are planed and glasspapered and then finally given a coat of knotting or shellac.

Of course without the support of his friends he wouldn't be able to continue his hobby, through lack of raw materials! He has become used to hearing boxes of matches being quietly dropped through his letter box, and in the past he has had anonymous deliveries through the post.



Certainly one requirement is plenty of patience, as well as matches. If there are drawbacks it might be the messy glue and occasional sore thumbs and fingers. But this doesn't deter him for he's now absorbed in another major construction — a full-size drop leaf table.

● Continued from page 58

## FINISHING A SOLITAIRE RING

apart as the others. Now force the setting into its conical shape, but leave it just too small to take the stone. File a shoulder on each claw, just as described for the ring. Not until this has been done should the stone fit easily in place. To stretch a small round setting you can simply force it onto a tapered mandrel or one jaw of a pair of round-nosed pliers of suitable size. For larger settings of unusual shape, careful easing with the pliers, working round and round a little at a time, will produce the same result.

It is sometimes quite easy to judge the depth of the shoulders to be cut in the setting before you start making it up. You can save time here by first bending the gallery strip to find the length re-

quired, cutting it, bending it straight again, and cutting all the shoulders with a file to a line scribed straight across the inside of the claws. Then bend it back to shape, solder the join, and open it out to take the stone.

Stone setting is done in exactly the same way as already described. With large settings it is quite simple to hold the stone with your fingers while securing the first few claws and so dispense with the shellac or sealing-wax.

In the case of a brooch, a small plate soldered at each end can carry the joint and catch. For pendants or pendant earrings, a small jump ring needs to be soldered to the top of the setting.

## ALL-PURPOSE EPOXY GLUE

ONE drop will hold 2 tons' claim the manufacturers. Though not tested to this extent, Devcon '2-Ton' epoxy glue certainly proved its adhesive qualities on metal to metal, wood to wood, and combinations of these and various other materials. Chips in a porcelain sink were also repaired with complete satisfaction as it dried rock hard with a white shiny finish — matching the porcelain nearly exactly.

Sold in two tubes (one is the hardener) for 8s. 6d., it is comparatively too dear for use solely on woodwork joints, but considering its versatility, and universal application, '2-Ton' is very handy to have about the house for jobs that include bonding, sealing, and repairing.

# RELIEF WALL DECORATIONS

WHEN decorating a room it is modern practice to add finishing touches by means of bordering, dividing a scheme into panels or ornamenting in some way at the corners, and this is often essential when different papers have been used to make panels.

A new idea is to make original, relief ornaments from half round beading and linoleum suitably prepared. The motifs can be designed to suit your own particular requirements and coloured to match your decorating schemes. They are fitted to the wall, approximately 1 ft. from the corners and similarly from the ceiling, although this measurement can be modified as desired. If you wish to add a centre piece between the cor-

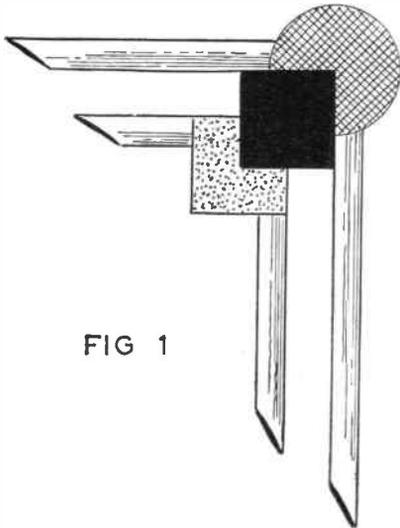


FIG 1

ners this can be prepared in a T form and made to conform with the other pieces.

You will find it an advantage to use new linoleum and since it is now possible to buy small squares very cheaply, one or two will do the job at very little cost. You may either select a suitable colour for this part of the ornament or paint to any shade, gold or silver. The linoleum can then be easily cut into squares, oblongs, diamonds, discs or any shape you desire by means of a sharp knife or scissors and the size will be determined by your design. Two inch squares may be large enough if used in pairs

although single ones look better if a little larger, but whatever size is decided remember to plan for economical cutting of the linoleum squares.

Reference to Fig. 1 will show that two squares and a disc are fitted together to form the central motif. Two squares of equal size are cut out together with a disc and these are then prepared to fit together by removing a portion of a square and a segment of the disc, permitting different colours to be used for the three pieces involved. It will be seen that it is best to prepare several such pieces before fixing to the wall but at the start it is wise to first cut out pieces of cardboard to size, arranging them in various groupings along with strips of beading to help in deciding the best scheme. The squares may then be cut out and the joints prepared ready for fitting.

Use half round beading, either  $\frac{1}{2}$  in. or  $\frac{3}{4}$  in., the larger being more suitable for rooms of bigger dimensions and where

a brush. This filler is then stippled with a stiff brush, a comb or by applying a flat piece of wood while the material is still plastic. This action will make a texture or raise the surface by suction.

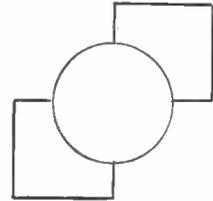
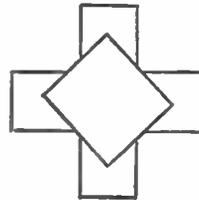
Allow to dry, rub over with coarse glasspaper to remove loose particles and sharp points, then paint.

Since this material is rather absorbent two or three undercoats of paint may be required. The beading may be left in one colour at this stage, although textured, but if two colours are required a tinted glaze is brushed on and then wiped away from the high relief parts with a rag. This will leave the tinted glaze in the depressions of the textured surface with the high relief portions revealing the ground colour and producing a two-tone effect. It is possible to produce an infinite variety of textures by use of these simple methods.

When the preparation of the ornaments has been completed they can be



FIG 2



the central features are also on a larger scale. Once again the length of the beading must be left to your discretion but as a guide we would mention that the verticals should not be less than 12 in. and slightly longer than the horizontals. In all cases the bottom ends should be neatly mitred inwards for a good finish.

When the length has been decided the beadings can be painted as required and you will find it an advantage to lay a few strips together on a sheet of old newspaper. These may then be painted in one operation and laid aside until dry.

Apart from normal painting methods it is possible to apply a textured surface to the beading when two colours may be used for finishing and these may match the central features. All you have to do is to prepare a mixture of crack filler to a reasonably thick consistency which is then painted on to the beading with

attached to the walls by dextrine — a strong paste used for heavy wallpapers — fixing the central features first and ensuring they are level by using a cord stretched along the wall after careful measuring. If necessary the beading can be attached with one or two fine panel pins.

In Fig. 2 we show several other modifications for designing the centre pieces but these are all geometrical shapes. It is possible to cut out other shapes such as leaves or flowers for floral effects, colouring accordingly, while animal shapes may be more appropriate for children's rooms — or you may be able to design some nursery rhyme characters.

With a little care in the fitting you should be able to make many attractive and original relief ornaments to suit any form of decoration. (S.H.L.)

Next week's free design will show how to make a Christmas toy for a youngster — 'The Nursery Express'. Make sure of your copy.



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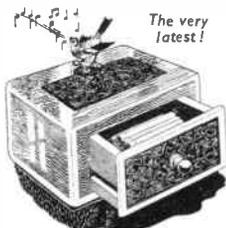
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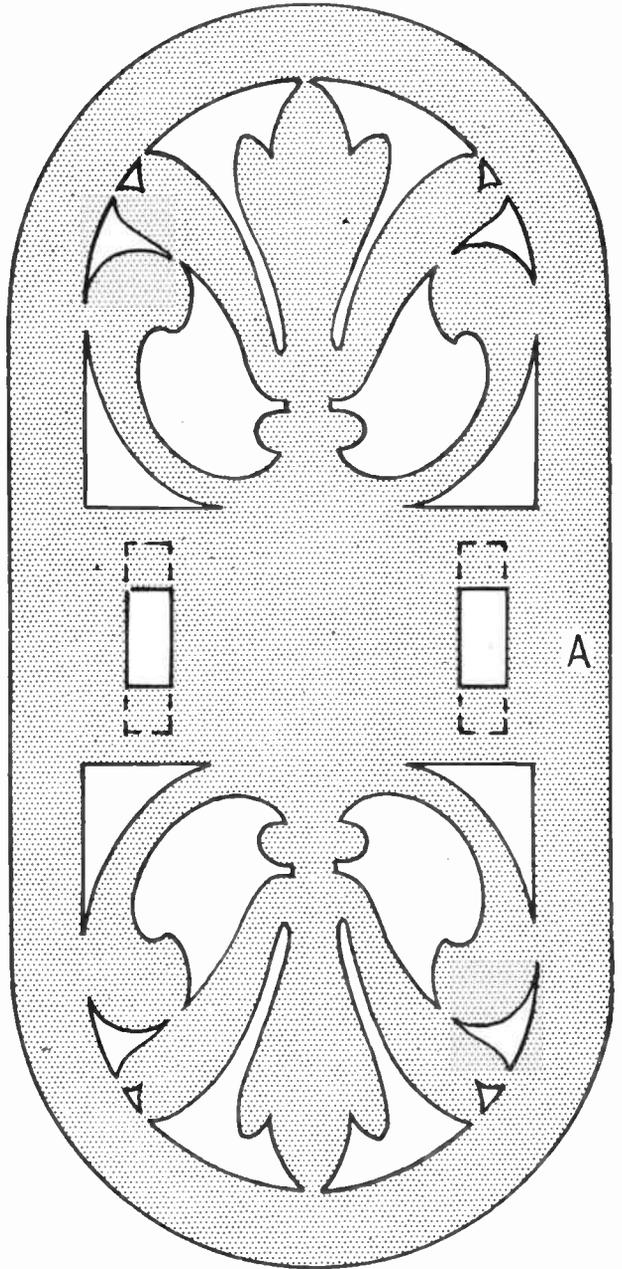
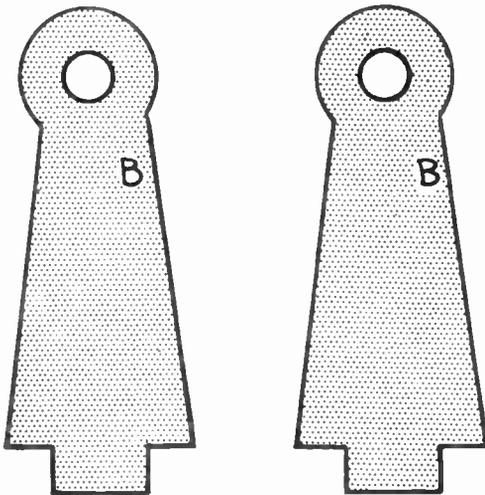
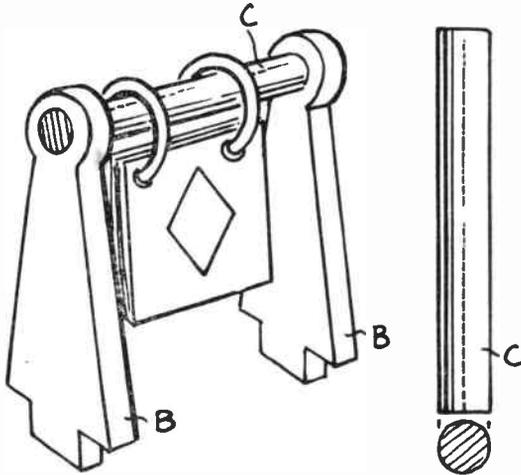
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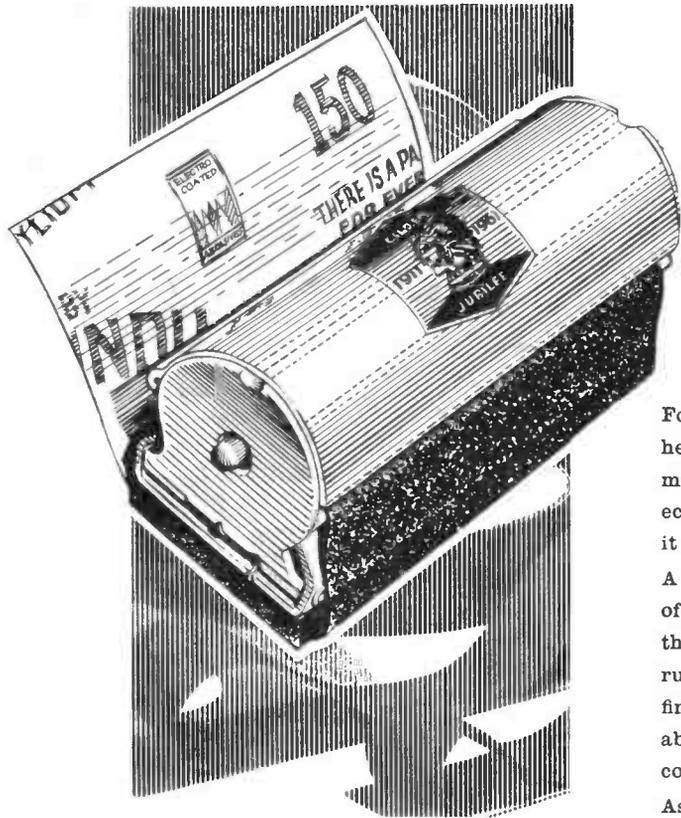
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